The Builder.

VOL. XXXVII. No. 1912. SATURDAY, DECEMBER 13, 1879.

ILLUSTRATIONS.

Interior View of the Holborn Town-hall 1372
The Holborn Town-hall and Public Offices (Plans, 1377).—Messrs. Isaacs & Florence, Architects 1374, 1375
The National Provincial Bank of England, Sunderland.—Mr. John Gibson, Architect 1379

CONTENTS.

An Architectural Domesday Book 1361
The Theatre War at Lyons 1362
The "St. Mark's" Demonstration 1364
Dalkeith and its Neighbourhood 1364
The Two Water-colour Exhibitions 1365
From the Banks of the Seine 1366
The Forests of the North 1367
Halifax and its Trade 1367
Edinburgh News 1368
Burlington Fine Arts Club 1369
The Intended Free Library, Museum, and Art Gallery, Preston 1369
Decorations in St. Matthew's Church, Bardrick, Yorkshire 1369
The Holborn Town-Hall and Public Offices 1370
The Clock, Chimes, and Bells, Holborn Town-hall 1370
The National Provincial Bank of England, Sunderland 1381
The President's Address: Royal Institute of British Architects. 1381
Professional Topics at the Architectural Association's Conversazione 1383
Notes on Ironwork 1385
Malton Urban Sanitary Authority 1386
Healthy Houses 1386
Female School of Art 1386
The Tower of St. Mary's, Bungay 1386
Fireproof Floors 1386
The Cross and Horse-shoe, St. George's, Fovant 1386
Town of St. Helier's New Market Buildings Competition 1386
Eastbourne Town-hall and Offices Competition 1386
Architects and Surveyors 1386
John Britton in Clerkenwell 1387
School of Wood-carving 1387
St. Alban's Abbey 1387
British Archæological Association 1388
Medals and Prizes, Royal Academy 1388
Proposed Hospital of the Guild of Art and Letters, Hampstead 1388
Obituary 1388
Books: Holtzapffel's Mathematical Drawing Instruments (Tribner); Which shall it be? How Lamps or Old? Shakspere or Shakespeare? (Fleet & Bishop, Brighton) 1389
Varieorum 1389
Miscellanea 1389

An Architectural Domesday Book.

NOTHING contributes more directly to the saving of valuable time, and to the utilisation of the knowledge positively acquired on any given subject, than the possession of a good index. The greater the wealth that exists, the more need of an inventory. It might almost seem as if the example in our national classic literature of the mischief wrought by the mis-direction of,—

> "Forsooth, an inventory, thus importing
> The several parcels of his plate, his treasure,
> Rich stuffs, and ornaments of household, which
> I find at such proud rate that it outspeaks
> Possession of a subject,"—

had induced our countrymen to neglect the very important duty of properly recording and indexing the national wealth.

The contrast with France is most striking in this respect. What have we in England to compare to such works as the "The Bulletin des Comités Historiques," the "Églises de l'Isle de France," the "Églises de Normandie," and their suite? We are not now speaking of such a work as the "Églises principales de l'Europe," published at Milan in folio, containing the Basilicas of St. Peter at Rome; St. John Lateran; St. Mark, Venice; the Superga, near Turin; the cathedrals of Milan, Vienna, Florence, Pisa, Sienna, Antwerp, and Ghent; although we find no corresponding entry in the Universal Catalogue of Works of Art, under the word "Church." We have, of course, well-known books; those on St. Paul's, on Westminster, and the historical and descriptive accounts, by J. Britton, of the cathedrals of Canterbury, York, Salisbury, Norwich, Oxford, Winchester, Lichfield, Hereford, Wells, Exeter, Worcester, Peterborough, Gloucester, and Bristol, published from 1814 to 1832. But where are we if any one puts the question,—"How many parish churches and chapels-of-ease are there in England? Where are the oldest buildings? To what date do they reach? What are the edifices of most interest as museums, or monumental records of the gradual change undergone by ecclesiastical architecture in Great Britain since the time of Offa, king of Mercia, or of Pope Gregory the Great?

Unless there exist a literary store with which we are entirely unacquainted, no reply, worth the name, can be given to these questions,—nay, if it were felt to be ever so urgent to ascertain the facts of the case, what course would be adopted? Only one is consistent with our experience in such matters. Some independent Peer, or member of the House of Commons, would ask for a "return of all the cathedrals, minsters, and parochial churches of England." Then there would be a debate. Members would urge that such a return was not required. Suppose the return ordered. The officer of the House of Parliament entrusted with the duty of preparing the return would first carefully seek to limit the field of inquiry in every possible manner. Thus, if any ecclesiastical buildings existed that did not come exactly under either of the above headings, they would be ruthlessly left out. Tewkesbury Abbey, for instance, with its noble round-headed west window,—a window filling, in its design, the entire width of the nave; Pershore Abbey; Malvern Abbey,—these would probably be omitted on the plea that they were neither cathedrals nor parish churches, but abbey churches used for parochial service. At all events, this is a specimen of the species of evasion in which the collectors of Parliamentary returns delight. Then there would be a certain number of contumacious returns. From one county would come the reply that no list of churches existed, and no funds or machinery existed for making such a list. From some great centres of ecclesiastical architecture might come the reply that the Deans, or Masters, or Fellows declined to furnish any information as to collegiate chapels, unless directed to do so by an Act of Parliament. Then, when all the returns that *did* come in were collected, they would be printed in the most disjointed way. No enumeration would be made in the report unless specially directed in the words of the resolution. Nothing would be done to make a *coup d'œil* easy, or indeed possible. Such a mass of unsorted detail would be pitchforked to the presses of Messrs. Hansard, that the task of wading through it would be such as to disgust the most eager inquirer. We should be presented with a vast amount of information, neither complete nor exhaustive, and not indicating where *lacunæ* existed,—so that, after three or four years' delay, and a cost untold to the general public, we should be much where we are.

Now we are living in a great church-building age. In few respects does the latter half of the nineteenth century offer a greater contrast to the corresponding period of the eighteenth than in that. Seventy or eighty years ago it was a very rare and difficult matter to build a church. No one seemed to know how to do so legally. Acts of Parliament were required for the purpose, so that, except in cases of reconstruction after damage by fire, from the reign of Elizabeth to that of George III., the ecclesiastical builder was almost wholly unemployed in England. Now, if we remember rightly, we complete between two and three churches per week. It may be said that a man who asks for money to build a church in Middlesex need not concern himself with the number of churches that exist in Yorkshire. The same kind of objection may be made to every effort to collect statistics. Indeed, it is made. There are persons who try to balk the census enumerator; there are persons so ignorant or so perverse as to say they have "religious objections" to a census. And perhaps it is more easy to understand, than it is decorous to mention, the real cause of the hitherto successful opposition that has been raised to the including in the decennial census of what might be useful information as to the number and capacity of our churches.

Statistical information, however, important as it is, is not what we now contemplate. The provision of church-room for an increasing population is a subject which has been very seriously contemplated and very nobly met. Under all the troubles of the past year or two there seems, as far as our experience goes, to have been but little check in the development of our great charities, or of such voluntary efforts as are covering the country with new churches. But the rapid increase of our architectural wealth cannot be adduced as a reason for failing to ascertain what that wealth is. At the present time we often find occasion to regret that no great work on the subject of our English churches,—such, for example, as the "Gallia Christiana,"—was compiled in the time of the great Benedictine writers. The important question of the growth of our population, for example, is one on which such a record would have thrown much light. We know, thanks to the decennial census, our actual rate of growth. We know, to some degree, that of most European countries. But when we work the calculation backwards, we so soon arrive at such low figures that we are led to question the accuracy of the process. This subject was handled by Cobbett, in his usually nervous and lucid manner. He is not a writer on whose statements it is possible to place implicit reliance, but he is one who, more than many others, suggests food for meditation and object for research. In 1826 he writes that, "We know, from the returns now before Parliament, that out of 11,761 parishes in England and Wales there are upwards of a thousand which do not contain a hundred persons each,—men, women, and children." He states that, in the first three Protestant reigns, parishes were united in more than two thousand instances, and parish churches pulled down. He calls attention to the size, and also to the comparative emptiness, of the then existing churches,—"They were manifestly built, in general, to hold, three, four, five, or ten times the number of the present parishioners, including all the sectaries. Why were so many and such large churches built? Whence were the people to fill them to come? Above all, whence came the hands that built them, with the walls 4 ft. thick, their towers and steeples? There must have been men to perform the labour; and can any one believe that this

labour would have been performed had there not been a necessity for it? We now see large and most costly ancient churches, and these in great number, too, with only a few mud huts to hold the ninety or a hundred of parishioners." This statement is hardly applicable at the present day. We may question as much as we like how far it was an exaggeration fifty-five years ago. But that there is a good deal of truth in it we think no one can doubt. It is probable that in many cases where very large churches are now found in small rural districts we have the ruins of old abbeys or cathedrals, which, on the banishment of the religious orders, were retained as parish churches. Thus Ramsbury Church was a cathedral; those of Romsey, Tewkesbury, Pershore, Malvern, and many others were abbeys. Of these the last three noble instances were,—at least, some forty years ago,—visible to one another from the tops of their respective towers, in the rich valley of the Severn. But while the wealth that from the time of the Conquest to that of the Reformation had gradually accumulated in *mortmain*, or come into the possession of the Church, was so large that it had excited the serious attention of the sovereign and his council so far back as the reign of King Henry IV., the question of the proportion of the size of a building to the probable number of worshippers to be accommodated was much the same in the time of the Confessor that it is now. A certain ease and margin would, no doubt, be allowed. But our ancestors knew so little as to the rate of increase of population, that they have left no records of what the population actually was. They probably were quite ignorant of the fact. They evidently had not the means of computing what the numbers of the inhabitants of any place would be in fifty or a hundred years from any given date. That is a thing which even now, with all our exact information from the census, we cannot realise in our imaginations. We can set down, and we do set down, on paper what the population of London will be forty years hence. But the imagination refuses to realise a city containing 7,000,000 inhabitants. It is all very well, we must confess to ourselves, to say, "If matters go on as they now do for forty years, that will be the population of London." But then we have the instinctive feeling that such a result is too portentous to contemplate. "Things cannot so go on," we are fain to think. Still, for sanitary no less than for other reasons, it would be of immense value to have information, such as that which we now seek to be put on record, of the state of our parish churches and parishes at earlier periods of our history. If, instead of having to contend as to the propriety of attributing the tower of the church of St. Mary, at Guildford, to the time of Alfred, we only had the record of its building, or that of either of the three successive enlargements which the edifice itself assures us took place in Norman, in Early English, and in Perpendicular times, with a statement of the causes which led to the same, and the number of parishioners for whom the accommodation was found necessary,—what a precious illustration of English history, not only architectural, but social, would these few notes afford!

We have the estimate, by George Chalmers, of the population of England and Wales in 1377, as 2,092,978. This will allow only about 525,000 able-bodied men in the whole kingdom. The churches and religious houses at that time are stated by the authority above cited to amount to upwards of 16,000 in number. There was at least one priest to every church, and the priests, together with the regular clergy, must have amounted to at least 40,000 out of the 525,000 able men. So that there was an allowance of about one church to every twelve able-bodied men! We are not, of course, pledging ourselves for the accuracy of these statements. But there they are; they have at least crystallised into the form of *mémoires pour servir*, or materials for history. They require sifting and thrashing, but they are enigmas for the social economist.

In 1381, Hume says, 100,000 men assembled at Blackheath, under the command of Wat Tyler, while, at the same time, numerous bodies of insurgents assembled in Hertfordshire, Essex, Suffolk, Norfolk, and Lincolnshire, to say nothing of the king's army of 40,000 men. How had Wat Tyler collected, in *six days*, more than one-fifth of all the able-bodied men of England? There may be exaggeration in excess of the number cited by the historian. There may be exaggeration, in defect, of the numbers cited by the statist. But the very statement of the two sets of figures, side by side, is ridiculous. It shows how far we are from having proper data. Chalmers's estimate would be too high, if things had gone on as they do now. It is by far too low, if Hume has any data for his positive statements. It follows that our knowledge of those causes which interfere with the growth of population is very defective. The plague, the black death, the Wars of the Roses, may be cited among the disturbing causes. But the great lesson that is to be derived from this palpable contradiction of estimates is the need for that stock-taking and due record, from time to time, of the national resources for which we are pleading. Of the value of the one regular stock-taking that we have of late established, viz., the decennial census, it is impossible to speak too highly. The financier, the soldier, and the sanitary reformer, are alike interested in these returns. The value of the "Church Domesday Book" might be less than that of the census, but he would be a bold man who should attempt to fix the minimum or maximum of that value.

Before the Reformation, according to the same authorities, there was one parish church to every four square miles throughout the kingdom, and one religious house to every thirty square miles; that is to say, parish churches dotted the land two miles apart each way, while a religious house stood on each piece of land five miles long and six miles wide. The wealth to which such a number of buildings,—many of them so stately, most of them so beautiful,—bore testimony, must have been very great, not that, if estimated in pounds of silver or ounces of gold, it would have compared with that of the present day. But what would an ounce of silver buy in the time of Henry VIII.? Supposing it to be stated in coin, the shilling of that day contained 120 grains of silver, which would now represent rather more than one shilling and sixpence. The price paid for meat, by the Act 24 Henry VIII., chapter 3, was one halfpenny per pound for beef or pork, and three farthings a pound for mutton or veal, avoirdupois weight, "and less in those places where they are now sold for less." Thus while the penny was intrinsically worth three of our present halfpence, the purchasing power of the penny (measured by its power to purchase meat) was sixteen times what it is at present, that is to say, that as far as the price of meat is a guide, a penny, or a shilling, or a sovereign, of the time of Henry VIII. was worth rather more than ten times what it is at present. No doubt, therefore, that where it would now take 10,000*l.* to rear a parish church, an equally stately structure might have then been reared (had it been an age of building instead of one of demolition) for 1,000*l.* That would have been the money value. But, except in so far as our improved roads and means of transport allow of the delivery of building materials, where much distance of transport is required, by means of far less labour now than was formerly the case, the actual labour devoted to the erection of the building must have been equal in the two eras. At the round allowance of 5*s.* per day of the workmen, to cover every expense, 40,000 days' work would be provided, at the present rates, for the sum named, or the constant work of forty men for three years. But the same number of days' work would have been required by the architect of Tudor times, only he would have paid his workmen 6*d.* a day each instead of 5*s.* And good pay too, with beef and pork at a halfpenny per pound.

This question as to the testimony mutely borne by architecture to the power and to the population of a country, at the dates fixed by the style, is one that is, of course, by no means new, although it is not one that has ever received that full and systematic elucidation which it demands. The question of the wealth of the Pharaohs, and of the population from which they drew such vast stores of naked human labour, has been rather raised than solved. The question of the method by which, and the cost at which, the vast architraves at Baalbec have been reared into their present lofty position, is one still more undetermined; although from the relics of the banks raised by the Romans for the siege of certain fortresses in Syria it may be conjectured that a solid bank, with a long inclined road up it, was reared close to the site of the temple, and that the enormous monolith was drawn to the top of the bank by sheer force. But so closely do we find the architecture of a country and of an age to be bound up with, and to reflect, the state of human life at the time,—the number of the people, their material welfare, their industrial skill,—that we may well hold that the formation and preservation of a written architectural record is one of not the least of the duties which a generation owes to those that will come after it.

As to the method of forming such a record, the need of which, we hope, requires no further argument to support it, we would rather, in the first instance, be the recipients than the authors of suggestions. Let us, however, urge on all those who value either architectural record, or the statistics of social life, and the *bones* of history, to use every effort in their power towards the requisition, in the Act of Parliament for the Census of 1880 (if any new legislation is required), or in any other way which may be practically available, for the notation of such records as to schools, churches, public buildings of all kinds, including all descriptions of places of worship, as should furnish at least a blank skeleton for a proper Domesday Book. Even the number of such buildings in each parish, with the simple statement of the number of attendants they could accommodate, or that of their exterior dimensions, would be of immense value. What would we not now give for such a statement, say dated in the first years of each of the Henries? It would be difficult to estimate the historical and statistical value of such information. Here, then, it seems to us, is a plain duty to be fulfilled by the Administration; nor can we believe that if the matter be brought before Parliament with the urgency that it claims, the mere mutual fire of sectarian jealousy will be allowed to maim and mutilate the next census.

To the Royal Institute of British Architects, to the architectural profession at large,—especially to such members of it as may have sufficient pecuniary means to allow them for a little while to work for the good of their country and the honourable remembrance of their own names, rather than for immediate pay,—to the Science and Art Department, to the Statistical Society, to the Society of Arts,—unweary in its efforts to be of public use,—we say, this is an object worthy of your study. We shall hail the first response from whatever source it may come. May we hope that the year 1880 will witness at least the commencement of the preparation of a Domesday Book of the Churches of England?

THE THEATRE WAR AT LYONS.

Undoubtedly the greatest event which has stirred the architectural and artistic world of Lyons is the opening of the Théâtre de Bellecour. This venture has been the subject of faction fights, of political discussions, and wrangling of no ordinary description. It is certainly an enterprise of a gigantic nature and the expediency of the undertaking was well calculated to occasion many discussions and a great divergence of opinion. Lyons is a town which must now contain 400,000 inhabitants, and more than the usual proportion of wealthy people. It might, therefore, be able to maintain a greater number of places of amusement than most towns of this size. The wealthiest people, however, are at the same time often the most parsimonious. For instance, we know a case of a gentleman who had made his fortune at Lyons, and who, while professing the warmest sympathy, would not subscribe to an artistic local periodical started by a friend because it cost 16*s.* per annum. "Sixteen shillings," he observed, "was a considerable sum." Three months later this prudent individual died, and it was found that he had left a fortune of 7,000,000 francs! Many of the Lyons millionnaires live in the most modest manner, content themselves with the strictest necessities of life, and are, therefore, not prone to spend their money in orchestra-stalls. Now Lyons, apart from a number of smaller and suburban theatres, is endowed with two large theatres, subventioned by the municipality, and where every effort is made to develop a high standard of taste and cultivate whatever local aptitude may be forthcoming. At the first of these theatres, the Grand Théâtre de Lyon, the opera is produced in a most creditable manner. At the other theatre, the Théâtre des Célestins, we have drama and comedy. The first theatre will hold 2,200 persons, and the other 1,700; and might bring in respectively 160*l.* and 120*l.* per night,—an estimate which includes officers and soldiers, who are always admitted for half-price. To keep these two theatres alive, the municipality

has been in the habit of paying them a subsidy of 6,000*l.* per annum; and in the face of these facts the question arose whether it was wise or necessary to build yet another larger and even more expensive theatre. The municipality would not hear of such a proposal; and, for our part, we cannot fully appreciate the merits of this local squabble, but we must record our admiration for the courage and enterprise of those gentlemen who, in spite of opposition from the authorities, determined to give Lyons yet another theatre; and, by the grandeur of the scheme, make this new house of entertainment one of the chief attractions of the town. We cannot but doubt the wisdom of the undertaking; nor, perhaps, was it altogether fair towards the other theatres, where efforts were made to accomplish good work; but, we repeat, the boldness of the enterprise, the energy with which it has been carried out, must commend itself to the admiration of all impartial observers.

The new Théâtre de Bellecour has now been opened to the public for about two months, and though it is not quite finished, we were, nevertheless, able to form a very complete idea of its magnificence, and the novelties that have been introduced in its construction. The façade is perhaps the part of the building which occasioned the most perplexity, and gave the architect the best opportunity of displaying his ingenuity. The company, or rather the few shareholders to whom this theatre belongs, succeeded in obtaining a site measuring more than 2,000 square mètres, and valued at more than 40,000*l.*; but the portion of this land which gives on to the main thoroughfare of Lyons, the Rue de la République, close to the Place Bellecour, is extremely narrow. To add to the complication, the houses on either side do not match, the one is much larger than the other, and they are in no way adapted to the close proximity of a great public building. How far the architect, M. Jules Chatron, has made the best of these adverse circumstances must remain a matter of opinion; but, in all cases, no one can deny that the façade of the theatre, in spite of its narrow dimensions, is at once imposing and original. The entrance is flanked by two immense statues, 18 ft. high, which are surmounted by a balcony, corbelled out in hard limestone. Above the balcony there is a monumental loggia, decorated with mosaics, bronze, gold, stained glass, &c. One of the peculiarities of this theatre is that there are three *foyers*, or crush-rooms, one above another, to correspond with each story, and all giving on to the street. The two upper crush-rooms are not yet furnished. Over the loggia there is a cupola, painted to imitate Florentine bronze, and relieved with gilding. This enables the eye to realise the height of the structure. Behind the cupola similar windows admit light into the body of the theatre in sufficient quantity for a meeting or concert to be held in the daytime without the aid of gas. Finally, on the summit of all, an electric light indicates to the whole town that the theatre is open,—the piece begun.

The side of the theatre giving on the Rue Bellecordière has a wall no less than one mètre fifty centimètres thick, and thirty-seven mètres high. This wall is united to the rest of the structure by tension-rods and enormous rafters in iron; fixed at their extremities in metallic pillars, and possessing, according to the verdict of the experts appointed to examine the safety of the building, every necessary element of strength and security.

It is impossible to enter, be it only the vestibule of the theatre, without being at once impressed with the novelty of the entire organisation and structure. First of all that abomination of the French theatre, the *queue*, has been abolished. Instead of being obliged to stand packed close together in Indian file between palisades that look like cages in front of the ticket-office, the public is allowed to secure places any time during the day without extra charge. Every place in the theatre is numbered, and thus, armed with his ticket, the spectator can walk in at any time, without being compelled to wait outside before the doors are open in order to secure a good place. This is certainly an excellent innovation, and avoids much confusion and crowding.

The entrance, or vestibule, leads to the most peculiar part of the theatre. This is termed the Indian *café*, which is built underneath the theatre, is circular in shape, and entirely lighted, both day and night, by electricity. It would be most difficult to give anything approaching to a correct picture of this most fantastic place. The style of decoration is purely Indian, and not a little barbarous. Brick-red is the predominating colour, but this is relieved with gold, green, blue, Indian faces painted here and there, and a little black. There is a colonnade all round, with red and gold pillars, while the wall beyond the pillars is covered with uneven looking-glass, that seems more like plaques of polished steel, fixed into a buff-coloured framework. The pillars have for capitals elephants' heads, life-size, painted a dull green, with huge gold ears. There is a circular bar in the centre whence refreshments are served,—little tables dotted here and there for coffee, &c. The absence of gas and the tesselated pavement would render the place delightfully cool in summer, particularly as drapery is used instead of doors. The whole effect is harmonious, though it might be thought gaudy but for the fact that the high colouring is in keeping with the Indian style. In any case the result is most startling: the electric light throws a fairy-like glamour on the scene, and it would be worth while visiting the theatre if only to see the *café*.

Below the *café*,—that is, in the basement,—another circular room, plainly decorated, and not so lofty, serves as a *restaurant*, so that the visitor begins by dining in the room below the level of the earth, then ascends to the ground floor, where he takes his *demi-tasse* and cigar, and finally, at the last moment, when the electric bell has given the signal, he goes up to the first floor and finds that his stall, numbered and reserved, is ready, waiting for him. The theatre itself is also a remarkable though less eccentric structure. Its size and importance may be gathered from the fact that it will seat 2,400 persons, though every seat is separated by a division, to prevent overcrowding; and, further, there is standing-room for 600 more persons. In the general style, M. Chatron has sought to effect a happy compromise between the Italian and French systems. In the ordinary French theatre each category of place varies in aspect and disposition. The first tier of boxes and the dress-circles predominate by their sumptuous decoration. In the Italian theatre, on the contrary, the decorations are uniform, whatever the height or nature of the place they surround. At the Théâtre de Bellecour a difference is made, but not so marked as is generally the case in France. Each row of stalls is raised one above another, so that the persons in the last seats can see perfectly; but the floor is level, the seats can be easily removed, and the theatre converted into a large ball-room. Around the stalls and on the same level there are thirty *baignores*, or large boxes, which hold eight people, and are only separated from each other by a division about 3 ft. high. Behind these there is not, as in most theatres, a wall, but simply some heavy drapery; and, on the other side of the drapery, a wide space where persons can stroll round and talk, and, by pulling the curtains aside, obtain an occasional glimpse at the stage. To this contrivance, however, two very serious objections may be made: firstly, the sound of conversation disturbs those who are seeking to enjoy the play; while the rush of wind every time the curtains are moved is most distressing, at least in the cold weather, which so often prevails at Lyons.

The general disposition of the interior of the theatre is very similar to that of the ancient Paris Opera, in the Rue Lepelletier. There are four columns on either side of the stage, of a composite and remarkable style. The three galleries are richly decorated, the design including shields that bear the names of great composers and authors. The centre of the ceiling represents the rays of a star, to which the eight electric lights that hang underneath, instead of the ordinary gas lustre, give an appearance of reality. The rays of the star gradually lose themselves in clouds, which themselves frame allegorical and admirable paintings, representing Aurora opening the gates of the West to Apollo conducting the Sun; and, where darkness of night still prevails, Tragedy and Death are menacing Love, nurtured in the soft glow of the dawning day. There is also a stalwart female, seated on a heraldic lion, receiving a crown from the hands of Renown, which is, of course, meant to represent the town of Lyons. Round the galleries we have both electric and the ordinary gas light. These are used sometimes simultaneously, sometimes separately, according to the exigencies of the play. In the decoration the most novel feature is the frequent admixture of red copper, which harmonises wonderfully with the surrounding gold and silver, and with the rich crimson satin hangings and gold fringe.

The first-floor, or principal crush-room, is preceded by a regular English bar, with three bar-girls, who have thoroughly understood the importance of personal appearance as a means of increasing the sale of refreshments. The crush-room is also Indian in style. The walls are covered with looking-glasses, framed in pillars which, facing each other, give the room the appearance of an endless gallery, where the waving palm-leaves, poised above the central seat, are reproduced over and over again. The pillars are of a brick red colour. The room is lighted by electricity, which has a most curious effect of colour on the large satin rosettes that surmount the doors. These are made of plaited blue and crimson satin, with red velvet and gold fringe.

Such are some of the most salient eccentricities and attractions of this new theatre. Certainly it will rank as one of the greatest "sights" of Lyons, and the tourist will not have done his duty unless he visits the Théâtre de Bellecour. We do not know that we can recommend the theatre as a masterpiece of artistic culture and refinement, but it is most original in its details, magnificent in its general effect, and in the theatrical building world deserves to be considered as the "sensation" of the day. M. Jules Chatron, the architect, has well understood the exigences of the situation. It was no use fighting the "official" theatres with their own weapons. It was necessary to go out of the beaten track altogether to impress and excite the imagination of the people, so as to divert them from their ordinary channels, to fill his huge theatre when there are so many other and good theatres close at hand with their doors wide open. The gauntlet thus thrown down has been boldly taken up. The old-established theatres do not intend to be eclipsed by the new-comer. But the taxpayer will have to pay some of the costs of this war waged for the purpose of providing him with amusement.

The theatre subvention was formerly 6,000*l.*; now this sum is to be doubled, so as to enable the two theatres supported by the Municipality to fight the all-engrossing Théâtre de Bellecour. Already the interior of the Grand Théâtre has been redecorated this year. The ceiling originally painted by M. Abel de Pujol, has been restored by M. Ginivet, the decorator retained by this theatre. Next year the crush-room is to be re-done by M. Hirsch, the architect of the town, and on this a sum of 8,000*l.* will be spent, and not spent before it was required, for the room certainly looks old, dingy, cold, and stiff. On the other hand, the crush-room of the Théâtre des Célestins, which theatre, together with the Grand Théâtre, is to carry on the war against the Théâtre de Bellecour, is most elegant and refined in its Greek style of decoration. At one end of the room there is a gigantic ebony and gold fireplace, with some fine ironwork and marble above. The colours of the wall are sober, chaste, and yet not devoid of a certain grandeur. The predominating colour of the ceiling is white, while the design is in bright line with a little red, some gold, a little black, and a few flowers. The wainscoting is of a dark dull brown; the paper of the lower half of the wall dull brick colour, enlivened with a thin gold design and a black and red border. Nothing could be in greater contrast with the startling ornamentation of the rival Théâtre de Bellecour. The *foyer* of the Théâtre des Célestins is certainly not so original, but it seemed to us more refined.

There is a powerful argument which the old theatres bring forward in their defence against their new rival that we should mention in conclusion. The Théâtre de Bellecour is blamed for supporting the "starring system." It imports companies from Paris for a few weeks each, who, during that time, play the same plays over and over again. On the other hand, the Célestins and the Grand Théâtre, under the able management of M. Marc, constitute a real local school for acting. These theatres have their own companies, and afford an opening not merely for local actors, but also for local authors. Thus we have at the Théâtre des Célestins a play, recently produced, entitled "La Lune Rousse," by M. Josephin Soulary, a well-known poet, and the librarian of the Bibliothèque Centrale of Lyons. "Jehan le Serf" and "L'Impasse" are also two other plays by local authors. Then, again, while in the course of six weeks the

Théâtre de Bellecour gave only two different pieces, that of the Célestins gave twenty-two; and, in six months, the Grand Théâtre put on the stage no less than sixty-eight different operas, including "Étienne Marcel," the opera by Saint-Saens, which has never been rendered elsewhere.

In this manner is the battle waged, and it is amusing to note how gradually the population are forming themselves into factions,—the one supporting the old state of affairs, the other applauding the enterprise and the revolution brought about by the directors and founders of the new Théâtre de Bellecour. In such a struggle the public will probably be the gainers.

Lyons.

THE "ST. MARK'S" DEMONSTRATION.

The short but rather excited skirmish that has arisen over the supposed intentions of the Italian Government in regard to St. Mark's has run out its first stage, at all events; and not without leaving one or two small lessons for those who are able and willing to profit by them. The very excitable kind of English people who promoted the skirmish ought to have learned once more a moral which has been pointed towards them ineffectually more than once already, viz., to be quite sure what it is that another man means to do, before they hold him up to ridicule and abuse for his presumed intentions. Whatever we may think of what has been done at St. Mark's already, it would certainly appear that the high Italian officials who are concerned in the matter are not thinking of going to work in any careless or Vandalist spirit, and that the statements flourished about in the newspapers and at the meetings of the Society for the Preservation of Ancient Buildings have been in many cases exaggerations. One of the illustrated journals, the other day, took the opportunity of publishing a view of the façade of St. Mark's, "which it is proposed to pull down,"—a proposition which, of course, has never been made. It is significant to contrast with these sweeping denunciations the considerate remarks of the Italian Ambassador, as reported by the secretary at the last meeting of the Institute of Architects,—remarks which went to emphasise the fact that, considering the nature of the foundations and the ground on which the famous basilica was built, the question was one not so much of restoration as of the absolute stability and safety of the whole structure. But this is far too matter-of-fact a view for some of our good friends at home. It has been stated as a fact that the mosaic of the great dome has parted from its ground, and is now hanging as an internal shell within the dome, and with a space between the mosaic and its proper ground or bed. We are not able to vouch for the fact, but we do say that mosaic so situated is in a most critical position, though some who have written on the matter here pass it over as a trifle.

It may possibly occur also to some of the more sober among the anti-restorers, that in future interference with the custodians of any important building, it would be as well to modify that tone of superiority in which they lecture and take to task those who are often better informed in regard to the matter in hand than any of their censors. Had the anti-restoration society sent a private memorial, in polite and respectful terms, to the Italian Government; had they taken the trouble to inquire what was really intended in regard to St. Mark's, and given their support to those individual Italians who, as they would have discovered, were really actuated by much the same wishes as those expressed by the English society, they might have been welcomed as co-adjutors, and heartily thanked for their enlightened interest in the architectural monuments of Italy.

There is a broader and more important question suggested by the controversy than that to which we have alluded, and more particularly the subject of a long letter from the Roman correspondent of the *Times* last week. That letter suggested what seems to have been entirely lost sight of by some of the objectors,—that it was just possible that modern Italy might be disposed to regard her land and her architectural remains as existing for some other purpose than the amusement of foreigners and travellers. We have been, for a good many generations, so much in the habit of regarding Italy as a beautiful relic of the past happily left for our artistic instruction and pleasure, that it seems difficult to convince some people that recent Italy is a very different thing from the Italy of last century or the commencement of the present; that she has her own independent political life, and is looking forward to a new future. It is not surprising that, under these circumstances, the too paternal interference of a small knot of excited Englishmen should have been resented pretty warmly; the Italians would hardly have shown proper spirit if they had not done so. A country which is looking forward to the future is hardly likely to sympathise very much with a circle who seem, with one consent, to have given up present and future as hopeless, and to think nothing worth the slightest attention or reverence except the relics of the past. By all means let a reverent care be had of such relics, but do not exaggerate their value at the expense of all the present interests, and all the hope which there may be for an art of the future, if only more energy and more encouragement were given to the work. As we have already said, St. Mark's is one of the most typical buildings in the world, and no pains ought to be spared to preserve the structure to us as intact as possible, and to preserve the mosaics rather than attempt to restore them. We entirely concur with those who say that a restored work of art, meaning thereby a copy of the old one as it might be supposed to have been when it was new, is worth little or nothing; it does not represent the art of the present day, and it fails in giving any real representation of the art of the time which it imitates. What is there to be done when an old fresco or an old mosaic has come to that stage of falling to pieces that it cannot any longer be let alone? Is there not one other course open to us? Surely we may try to make a better one. The remaining fragments of the old work should be carefully copied on durable material, and all their history and the circumstances of their removal noted down for historical reasons, the old work, if it cannot possibly be maintained *in situ*, removed to a museum or other place of preservation, and then the attempt should be fairly made by the best genius and with the best materials and methods available to us, to produce something which our far-off descendants may be as unwilling to touch or remove as we are unwilling to remove that of our far-off predecessors. Surely if this spirit and this aim, heretical as it may sound, had been more acted upon,—if all the time spent in getting up discussions and sensations against restoration had been spent on seeing what we could do ourselves to surpass the works which we see inevitably mouldering before our eyes,—English architectural and ornamental art might be in better and more hopeful condition than it is.

DALKEITH AND ITS NEIGHBOURHOOD.

Pursuing our observations on Dalkeith,* we must now proceed to speak of the population and the local government; and also to make a few observations on the adjacent villages, some of which are greatly in need of improvement. Those who seek for a picture of rural felicity in such a neighbourhood,—if indeed such a phantom has any form of concrete existence in these degenerate days,—will be apt, we are afraid, to find themselves disappointed. It must always be remembered that we are writing of a district which has a sort of town and country,—a mining and manufacturing population all rolled into one; and which therefore cuts up on the section very much like a piece of pudding-stone or a block of breccia marble.

The population of Dalkeith at the last census was 7,667, that is, within the boundaries of the parish, which contains also a large number of villages and farms as well as collieries; besides being supplied with a most extensive and intricate network of railways. That of the town itself does not exceed in all probability 5,000 or 5,600 at the utmost. The mortality and disease of the district are regularly reported by Dr. Ballantyne, the medical officer of health. From some of these vital statistics, kindly furnished to us by Mr. Dyer, the parish registrar, and commencing from the date of the Compulsory Vaccination Act, we find the death-rate on a computation of the average deaths for the last ten years to be 24·8, which is obviously far too high for such a rural community; and must be considered with regard to the varying conditions of the population, in the first place; and secondly to the exceptional years of 1871-2, when there was a severe epidemic of smallpox, which disease, however, has since disappeared. Speaking from personal observation we may also point out an extraordinary increment of the mortality in the shape of fatal accidents. The urban population is chiefly composed of the ordinary mechanics, manufacturers, and shopkeepers of a county market-town, such as we have already described, and the suburban is made up of agricultural labourers and colliers. In both of these last-mentioned classes it is curious to observe that there is now a very large admixture of the Irish element, not at all to the advantage either of the *physique* or the *morale* of the indigenous population. The ploughmen and farm-servants we happened to see at a hiring fair held in the town one day (when, by the way, their wages were reduced about twenty per cent.) were unmistakably of a well-to-do order of the labouring classes; that is more, however, than we can say of the whole working-classes in the town, a great many of whom are out of work, and who seem to be a set of very rough and sound specimens of what Carlyle calls the mobocracy. In order to account for this we must look into the nature of the local industries. There are several extensive iron-foundries in Dalkeith, some brush and "bobbin" manufactories, a carpet manufactory, two or three flour-mills, a paper-mill, and a brewery. The staple indnstry, however, of the whole district is the coal trade, which certainly gives employment to a full third of the population. As for the poorer colliers, coal-carters and coal-heavers who depend for their existence on the subterranean treasures of the mines, we have quite recently had enough, and to spare, of their social and educational condition; but even this class of people have improved in their condition, particularly since the days when their great-grandfathers were slaves of the soil.*

The whole district of Dalkeith, we may explain, as well as nearly the whole valleys of the river Esk and its tributaries, consist entirely of the carboniferous system, forming the central part of the great and extensive coalfields of Midlothian. This large and interesting coal basin, we may add, gradually diminishes in the course of every succeeding stratification, and if we may judge from the number of deserted and worked-out coal-pits and smokeless chimneys, is slowly but surely getting exhausted.† Although this heterogeneous population is now on the whole orderly enough, we must add they were not, even very recently, always so characterised. The late Sheriff Gordon, we were told, said, on one occasion, rather disgusted with the abnormal number of delinquents, that Dalkeith would need a sheriff to itself. Until within the last year or two, a depôt of militia had its head-quarters in the town. A fair staff of the county constabulary had also their head station here; and hard enough work, we believe, they had to keep the peace. The burgh commissioners have now superseded the county magistrates in the administration of the police force, consisting of a number of constables, with a superintending inspector. Their duties, we were told, are now very light, excepting on special occasions, such as a fair or a market-day, or an election, and more particularly on a Saturday night, when the surrounding miners and agricultural labourers flock into the town to make their markets.

Temperance, we may add, is rapidly increasing among them; indeed, we have seldom, except in some towns in the north of Scotland and in Wales, seen so much of the temperance movement as we have seen in Dalkeith. The difficulty about the teetotal societies, however, in this quarter seems to be that they have a direct and positive tendency to merge into the warmest description of revival meetings, and not unfrequently into hot-beds of political propagandism.

Dalkeith is now governed, as a municipality, by a provost, three magistates, and twelve commissioners of police, elected under the General Police Act. The adoption of this Act (which is popularly known as Provost Lindsay's Act) was in a manner rendered absolutely necessary by the growth of the town and its suburb

* See p. 236, *ante*.

* The "colliers" and "salters" of Midlothian were actually slaves,—i.e., in the language of the Scots law, "Thirled" to the soil up to the year 1720.—See Fletcher of Saltoun's Works, and Robert Chambers's Domestic Annals.

† The geology of the district is highly interesting. Dalkeith Park, according to Provost Mitchell, lies on the plateau of an ancient sea margin.

of Eskbank, and, above all, by the deficiency of the water supply. The old trustees had not, it was found, the necessary powers of assessment, either to introduce another source of water supply, or to project a new system of drainage. But the great battle of introducing the new Police Bill was fought likewise on other grounds,—those, namely, of putting an end to the slight remnant of feudal jurisdiction exercised by the Duke of Buccleugh, or rather by the baron bailie, and substituting that of local administrative government. There was a great demonstration of triumph, as some think unnecessary triumph, on the part of the burgesses on the day they carried the adoption of the Act; and although the rates or assessment has risen from 9d. to 2s. in the pound, yet so much are they gratified with their success and their consequent enfranchisement, that none of the ratepayers, as far as we could gather, make the least complaint.

Of course, it was not to be expected that Dalkeith could be renovated all at once, and we must say that, as far as they have gone, the commissioners deserve credit. They have, indeed, made several blunders, from which a greater knowledge and experience of Parliamentary practice might have saved them; as, for instance, with regard to the water-supply. Dalkeith, as we have mentioned, is now supplied with water from the Edinburgh Water Company's Moorfoot systems, in consideration of a stipulated price per million of gallons or per head of the population,—we forgot which. The supply having been obtained, the works were simple enough. A neat brick octagon tower, about 50 ft. high, with cast-iron cistern calculated to contain 25,000 or 30,000 gallons, has been erected (under the plans and superintendence of Messrs. Leslie, C.E.), close to the cemetery, in the shape of a reservoir; and filtering-beds have been completed on the neighbouring eminence of East Houses. A similar erection has been made at the village of Easter Cowden, for the reception of the water,—obtained under the Water Companies Act as compensation,—from the Moorfoot Hills, by the Duke of Buccleuch. This water-supply has unquestionably been of the greatest value and importance to the town. The error the commissioners committed was simply in becoming lessees of a subsidiary water-supply from Edinburgh without any Parliamentary title, or heritable or legal right. They took no part in promoting the Edinburgh Company's Bill, as Portobello and Musselburgh did; and the plain consequence is, that in the event of either of those municipalities getting scarce of water, Dalkeith might have its supply diminished, or it might be cut off altogether. Such an event is, of course, not very probable for the present; but it is by no means impossible. Whatever may be said about their supply of bread at this moment, it cannot be affirmed that their water is sure in Dalkeith.

Some mistakes seem also to have been made in the matter of the Eskbank drainage. Eskbank, we may mention, is a sort of fashionable suburb of Dalkeith, chiefly inhabited by retired citizens of Edinburgh and merchants of Leith, with the usual sprinkling of half-pay officers and anglo-Indians, who seem to gravitate to such places by some inherent process of selection. A portion of the site, it should seem, lies at a pretty low level; and although considerably elevated above the bed of the river, it is nevertheless dangerously close to the surface-water, which may be found on digging 4 ft. or 5 ft. almost anywhere in the neighbourhood of Dalkeith. Under such conditions, it is by no means safe to have cellars below the basement floor of the houses. Yet this was the origin of a very hot controversy which followed in the local newspaper for the period of six weeks, between a certain gallant captain of the navy and the Sanitary Authority, in which our readers who are conversant with such descriptions of duels will easily imagine that the captain was no match for the commissioners! Let us hope that some good may come out of the discussion, for the drainage of Eskbank is unmistakably defective.

A very pretty little cemetery has recently been added to the two parish graveyards of Dalkeith. We can hardly call it an extramural or even a suburban cemetery, for it lies between Eskbank and Dalkeith, right opposite the R. C. chapel, and adjoining the Public Schools. There is a very tasteful mortuary monument worth noticing in this little cemetery, of white Carrara marble, erected by the Postmaster to the memory of his wife; and not far off in the churchyard of the West Kirk parish, there is a beautiful Cairngall granite obelisk erected by Mr. David Jerdan, to the memory of his wife, who was a sister of Dr. Samuel Smiles. It has engraved on it an appropriate Scriptural quotation in the original Greek. The churchyards, of course, belong to the parish; the cemetery is the property of the Parochial Board.

There is, we understand, at this moment a project on foot of cutting a new street through White Hart-street at right angles to Buccleuch-street, and also of opening up and otherwise improving the labyrinthine closes and densely-populated wynds in the High-street, some of which, such as the Flesh Market-close, Campbell's-close, Leyden's-close, and the Laigh-close, would be all the better for being reformed altogether. Without doubt this is the next and probably most serious task before the Commissioners, and should not be carried out, let us suggest, without a well-considered plan and a collateral system of drainage.

We have left ourselves very little room to describe the surrounding colliery villages, and, indeed, most of them are not worthy of description. We must except those on the Dalkeith estates, however, such as Thorniebank, Cowdenfoot, Smeaton, the Cowpits, and others, which are perfect models of labourers' cottages, and which, we believe, were erected under the personal supervision of the Duke of Buccleuch, who has long been president of the Agricultural Labourers' Cottages Building Association. The villages on the other, or landward, side of Dalkeith, such as those which surround the Millerhill Station, are literally a century behind the age. We are afraid some of the wealthy and liberal colliery proprietors of Midlothian have been spending more money on their steam engines than their cottages!

Dalkeith, we have to observe in conclusion, compared with similar Scotch towns we have examined, such as Stirling and Dumfries, is in all essential respects (if we except its drainage) in a state of advance; and, furthermore, if we consider the beautiful grounds and district of country in which it lies embosomed, it is a perfect paradise when contrasted with such colliery towns as Falkirk or Ardrie. There is, besides, a spirit of great earnestness and desire for improvement existing on the part of the local authority, as well as the conterminous proprietors, which we do not remember to have often met with in our wanderings beyond the Tweed.

THE TWO WATER-COLOUR EXHIBITIONS.

BOTH the Institute and the Society of Water-colour Artists held their private view last Saturday, and opened on Monday for their respective winter exhibitions of "Sketches and Studies." The simultaneous arrangement, whether or not intentionally prompted by a spirit of rivalry, is inconvenient and undesirable, and is calculated to injure the opening day of either one or both exhibitions by dividing the visitors. In this case the old society was the gainer, and seemed to draw by far the larger number to its private view, the other gallery being thinly attended in comparison with what is usual. The "Society" being the older establishment, had the fair claim to first consideration, though not only on that ground, for we have rarely seen a better winter exhibition in its rooms.

Following this example of the multitude, and giving precedence to the older society, we may say a word first upon a few drawings which have special interest for us as illustrating architecture. *Facile princeps* among these, and indeed in its way one of the very best things we have ever seen in this exhibition, is Mr. Ruskin's water-colour sketch of a part of the interior of St. Mark's, Venice (28). This is a "sketch" only in the sense that it is not all equally completed, certain parts being only lined-in sufficiently to give the continuity of the architectural design; but as far as the coloured portion goes, it is about as minutely finished as anything could be, though in light tints. It would be impossible to speak too highly of the delicacy and conscientious study with which the colours and markings of the various marbles are given, and the whole anatomy as well as complexion of the architecture realised; indeed, as we heard it observed by one of the greatest water-colour artists of the day, the drawing suggests the idea that if one were to attempt such study in detail for a large work, and carry out such detail along with the general impression or effect, a very few paintings would have to suffice for a lifetime. We hope that this is not the last of Mr. Ruskin's drawings of this class that we are to see.

We would next point out to the architectural visitor the drawings at Rome, executed on the spot (as the catalogue informs us) by Mr. H. P. Rivière. If we are to take it, as we conclude, that these drawings were really finished as we see them here, in the open air and before the buildings which are delineated, we must compliment their author very highly upon them. They are admirably true in tone, have the appearance of finish without hardness or labour, and represent the architectural detail with combined truthfulness and picturesque effect. Among them may be named "St. Peter's and the Castle of St. Angelo" (93), "The Interior of St. Peter's" (221), and the view of the Temple of Venus and Rome (275); the latter is especially excellent. Not so much can be said, we fear, in favour of another set of architectural studies by Miss Clara Montalba, who has been working at the Thames bridges, and sends several studies, consisting generally of a drawing taken close to a pier or under an arch of one of the bridges, and showing other buildings in the distance. One of them, perhaps in one sense the best, shows that abominable pier of Blackfriars Bridge in hard and disagreeable prominence; but the tones and texture of the material in the others are anything but satisfactory, and they cannot rank as good architectural illustrations. A good sketch of an architectural subject, in very different style from any of those already named, is the view of the arch of Constantine, with a small bit of the Colosseum in the foreground (407), by Mr. Arthur Glennie.

Quitting this special class of subjects, and taking the exhibition generally, we are really quite unable to name half the works which deserve attention, and which (bearing in mind always that this is professedly a "sketch" exhibition) show most refined excellencies. The greatest executive painter of the day naturally comes first. Mr. Tadema's one contribution occupies the centre place on the second screen, which has been his by custom for some years back. It is a Roman interior, of course, exhibiting an aged epicure, "an old bachelor" (356) draped in saffron robes and reclined upon a couch, behind which is seen a marbled bas-relief most beautifully painted; in front a stream of water from a bronze head spouts into the middle of a basin in the marble floor. Every one will understand what are the characteristics of such a subject in Mr. Tadema's hands. The present example, a very small-size work, is even exceptional in a minuteness of finish which Meissonier alone could rival. We may next turn to the beautiful little works of Mrs. Allingham. This lady also disdains to send sketches, and there is no difference whatever in finish between her contributions to the winter and the summer exhibitions. "In the Hayloft" (204) shows us two little children crouched against the mass of hay on the floor of the loft. It is a trying experiment, for a great part of the picture consists of hay, yet the whole is so beautifully handled, and the two children seem so well worth a considerable framework, that the result is quite satisfactory as a picture, and the children are painted with all the refinement and sympathy which characterise the artist's numerous child-subjects. An exquisite little picture in quite a different way is "The Hayfield: Albury, Surrey" (306),—a hayfield in bright sunshine, backed by an amphitheatre of trees on a rising bank, the masses of foliage covered with a shimmer of light and shadow, seen through a slightly hazy heat, which is an exquisite realisation of one of the most beautiful and evanescent effects of nature. There are other works by the same artist, all with more or less excellence.

Mr. Alfred Hunt, as usual, exhibits drawings which might pass for the work of so many different hands, so perfectly distinct and free from manner are they. "Capel Curig" (17), a dark stormy scene, is a good example of his power in one kind of view, and "Twilight—Whitby" (82), a fine realisation of a half-lighted effect of a view only indistinctly discerned through the dusk. Among Mr. Albert Goodwin's contributions, the best is "The Overgrown Park—Allington Castle" (88), where a delightful piece of red ivy-grown ruin forms the centre, with a foreground of rushes and other wild

Théâtre de Bellecour gave only two different pieces, that of the Célestins gave twenty-two; and, in six months, the Grand Théâtre put on the stage no less than sixty-eight different operas, including "Étienne Marcel," the opera by Saint-Saens, which has never been rendered elsewhere.

In this manner is the battle waged, and it is amusing to note how gradually the population are forming themselves into factions,—the one supporting the old state of affairs, the other applauding the enterprise and the revolution brought about by the directors and founders of the new Théâtre de Bellecour. In such a struggle the public will probably be the gainers.

Lyons.

THE "ST. MARK'S" DEMONSTRATION.

The short but rather excited skirmish that has arisen over the supposed intentions of the Italian Government in regard to St. Mark's has run out its first stage, at all events; and not without leaving one or two small lessons for those who are able and willing to profit by them. The very excitable kind of English people who promoted the skirmish ought to have learned once more a moral which has been pointed towards them ineffectually more than once already, viz., to be quite sure what it is that another man means to do, before they hold him up to ridicule and abuse for his presumed intentions. Whatever we may think of what has been done at St. Mark's already, it would certainly appear that the high Italian officials who are concerned in the matter are not thinking of going to work in any careless or Vandalist spirit, and that the statements flourished about in the newspapers and at the meetings of the Society for the Preservation of Ancient Buildings have been in many cases exaggerations. One of the illustrated journals, the other day, took the opportunity of publishing a view of the façade of St. Mark's, "which it is proposed to pull down,"—a proposition which, of course, has never been made. It is significant to contrast with these sweeping denunciations the considerate remarks of the Italian Ambassador, as reported by the secretary at the last meeting of the Institute of Architects,—remarks which went to emphasise the fact that, considering the nature of the foundations and the ground on which the famous basilica was built, the question was one not so much of restoration as of the absolute stability and safety of the whole structure. But this is far too matter-of-fact a view for some of our good friends at home. It has been stated as a fact that the mosaic of the great dome has parted from its ground, and is now hanging as an internal shell within the dome, and with a space between the mosaic and its proper ground or bed. We are not able to vouch for the fact, but we do say that mosaic so situated is in a most critical position, though some who have written on the matter here pass it over as a trifle.

It may possibly occur also to some of the more sober among the anti-restorers, that in future interference with the custodians of any important building, it would be as well to modify that tone of superiority in which they lecture and take to task those who are often better informed in regard to the matter in hand than any of their censors. Had the anti-restoration society sent a private memorial, in polite and respectful terms, to the Italian Government; had they taken the trouble to inquire what was really intended in regard to St. Mark's, and given their support to those individual Italians who, as they would have discovered, were really actuated by much the same wishes as those expressed by the English society, they might have been welcomed as coadjutors, and heartily thanked for their enlightened interest in the architectural monuments of Italy.

There is a broader and more important question suggested by the controversy than that to which we have alluded, and more particularly the subject of a long letter from the Roman correspondent of the *Times* last week. That letter suggested what seems to have been entirely lost sight of by some of the objectors,—that it was just possible that modern Italy might be disposed to regard her land and her architectural remains as existing for some other purpose than the amusement of foreigners and travellers. We have been, for a good many generations, so much in the habit of regarding Italy as a beautiful relic of the past happily left for our artistic instruction and pleasure, that it seems difficult to convince some people that recent Italy is a very different thing from the Italy of last century or the commencement of the present; that she has her own independent political life, and is looking forward to a new future. It is not surprising that, under these circumstances, the too paternal interference of a small knot of excited Englishmen should have been resented pretty warmly; the Italians would hardly have shown proper spirit if they had not done so. A country which is looking forward to the future is hardly likely to sympathise very much with a circle who seem, with one consent, to have given up present and future as hopeless, and to think nothing worth the slightest attention or reverence except the relics of the past. By all means let a reverent care be had of such relics, but do not exaggerate their value at the expense of all the present interests, and all the hope which there may be for an art of the future, if only more energy and more encouragement were given to the work. As we have already said, St. Mark's is one of the most typical buildings in the world, and no pains ought to be spared to preserve the structure to us as intact as possible, and to preserve the mosaics rather than attempt to restore them. We entirely concur with those who say that a restored work of art, meaning thereby a copy of the old one as it might be supposed to have been when it was new, is worth little or nothing; it does not represent the art of the present day, and it fails in giving any real representation of the art of the time which it imitates. What is there to be done when an old fresco or an old mosaic has come to that stage of falling to pieces that it cannot any longer be let alone? Is there not one other course open to us? Surely we may try to make a better one. The remaining fragments of the old work should be carefully copied on durable material, and all their history and the circumstances of their removal noted down for historical reasons, the old work, if it cannot possibly be maintained *in situ*, removed to a museum or other place of preservation, and then the attempt should be fairly made by the best genius and with the best materials and methods available to us, to produce something which our far-off descendants may be as unwilling to touch or remove as we are unwilling to remove that of our far-off predecessors. Surely if this spirit and this aim, heretical as it may sound, had been more acted upon,—if all the time spent in getting up discussions and sensations against restoration had been spent on seeing what we could do ourselves to surpass the works which we see inevitably mouldering before our eyes,—English architectural and ornamental art might be in better and more hopeful condition than it is.

DALKEITH AND ITS NEIGHBOURHOOD.

Pursuing our observations on Dalkeith,* we must now proceed to speak of the population and the local government; and also to make a few observations on the adjacent villages, some of which are greatly in need of improvement. Those who seek for a picture of rural felicity in such a neighbourhood,—if indeed such a phantom has any form of concrete existence in these degenerate days,—will be apt, we are afraid, to find themselves disappointed. It must always be remembered that we are writing of a district which has a sort of town and country,—a mining and manufacturing population all rolled into one; and which therefore cuts up on the section very much like a piece of pudding-stone or a block of breccia marble.

The population of Dalkeith at the last census was 7,667, that is, within the boundaries of the parish, which contains also a large number of villages and farms as well as collieries; besides being supplied with a most extensive and intricate network of railways. That of the town itself does not exceed in all probability 5,000 or 5,600 at the utmost. The mortality and disease of the district are regularly reported by Dr. Ballantyne, the medical officer of health. From some of these vital statistics, kindly furnished to us by Mr. Dyer, the parish registrar, and commencing from the date of the Compulsory Vaccination Act, we find the death-rate on a computation of the average deaths for the last ten years to be 24·8, which is obviously far too high for such a rural community; and must be considered with regard to the varying conditions of the population, in the first place; and secondly to the exceptional years of 1871-2, when there was a severe epidemic of smallpox, which disease, however, has since disappeared. Speaking from personal observation we may also point out an extraordinary increment of the mortality in the shape of fatal accidents. The urban population is chiefly composed of the ordinary mechanics, manufacturers, and shopkeepers of a county market-town, such as we have already described, and the suburban is made up of agricultural labourers and colliers. In both of these last-mentioned classes it is curious to observe that there is now a very large admixture of the Irish element, not at all to the advantage either of the *physique* or the *morale* of the indigenous population. The ploughmen and farm-servants we happened to see at a hiring fair held in the town one day (when, by the way, their wages were reduced about twenty per cent.) were unmistakably of a well-to-do order of the labouring classes; that is more, however, than we can say of the whole working-classes in the town, a great many of whom are out of work, and who seem to be a set of very rough and sound specimens of what Carlyle calls the mobocracy. In order to account for this we must look into the nature of the local industries. There are several extensive iron-foundries in Dalkeith, some brush and "bobbin" manufactories, a carpet manufactory, two or three flour-mills, a paper-mill, and a brewery. The staple indnstry, however, of the whole district is the coal trade, which certainly gives employment to a full third of the population. As for the poorer colliers, coal-carters and coal-heavers who depend for their existence on the subterranean treasures of the mines, we have quite recently had enough, and to spare, of their social and educational condition; but even this class of people have improved in their condition, particularly since the days when their great-grandfathers were slaves of the soil.*

The whole district of Dalkeith, we may explain, as well as nearly the whole valleys of the river Esk and its tributaries, consist entirely of the carboniferous system, forming the central part of the great and extensive coalfields of Midlothian. This large and interesting coal basin, we may add, gradually diminishes in the course of every succeeding stratification, and if we may judge from the number of deserted and worked-out coal-pits and smokeless chimneys, is slowly but surely getting exhausted.† Although this heterogeneous population is now on the whole orderly enough, we must add they were not, even very recently, always so characterised. The late Sheriff Gordon, we were told, said, on one occasion, rather disgusted with the abnormal number of delinquents, that Dalkeith would need a sheriff to itself. Until within the last year or two, a depôt of militia had its headquarters in the town. A fair staff of the county constabulary had also their head station here; and hard enough work, we believe, they had to keep the peace. The burgh commissioners have now superseded the county magistrates in the administration of the police force, consisting of a number of constables, with a superintending inspector. Their duties, we were told, are now very light, excepting on special occasions, such as a fair or a market-day, or an election, and more particularly on a Saturday night, when the surrounding miners and agricultural labourers flock into the town to make their markets.

Temperance, we may add, is rapidly increasing among them; indeed, we have seldom, except in some towns in the north of Scotland and in Wales, seen so much of the temperance movement as we have seen in Dalkeith. The difficulty about the teetotal societies, however, in this quarter seems to be that they have a direct and positive tendency to merge into the warmest description of revival meetings, and not unfrequently into hot-beds of political propagandism.

Dalkeith is now governed, as a municipality, by a provost, three magistates, and twelve commissioners of police, elected under the General Police Act. The adoption of this Act (which is popularly known as Provost Lindsay's Act) was in a manner rendered absolutely necessary by the growth of the town and its suburb

* See p. 226, *ante*.

* The "colliers" and "salters" of Midlothian were actually slaves,—i.e., in the language of the Scots law, "Thirled" to the soil up to the year 1720.—See Fletcher of Saltoun's Works, and Robert Chambers's Domestic Annals.

† The geology of the district is highly interesting. Dalkeith Park, according to Provost Mitchell, lies on the plateau of an ancient sea margin.

of Eskbank, and, above all, by the deficiency of the water supply. The old trustees had not, it was found, the necessary powers of assessment, either to introduce another source of water supply, or to project a new system of drainage. But the great battle of introducing the new Police Bill was fought likewise on other grounds,—those, namely, of putting an end to the slight remnant of feudal jurisdiction exercised by the Duke of Buccleugh, or rather by the baron bailie, and substituting that of local administrative government. There was a great demonstration of triumph, as some think unnecessary triumph, on the part of the burgesses on the day they carried the adoption of the Act; and although the rates or assessment has risen from 9d. to 2s. in the pound, yet so much are they gratified with their success and their consequent enfranchisement, that none of the ratepayers, as far as we could gather, make the least complaint.

Of course, it was not to be expected that Dalkeith could be renovated all at once, and we must say that, as far as they have gone, the commissioners deserve credit. They have, indeed, made several blunders, from which a greater knowledge and experience of Parliamentary practice might have saved them; as, for instance, with regard to the water-supply. Dalkeith, as we have mentioned, is now supplied with water from the Edinburgh Water Company's Moorfoot systems, in consideration of a stipulated price per million of gallons or per head of the population,—we forget which. The supply having been obtained, the works were simple enough. A neat brick octagon tower, about 50 ft. high, with cast-iron cistern calculated to contain 25,000 or 30,000 gallons, has been erected (under the plans and superintendence of Messrs. Leslie, C.E.), close to the cemetery, in the shape of a reservoir; and filtering-beds have been completed on the neighbouring eminence of East Houses. A similar erection has been made at the village of Easter Cowden, for the reception of the water,—obtained under the Water Companies Act as compensation,—from the Moorfoot Hills, by the Duke of Buccleuch. This water-supply has unquestionably been of the greatest value and importance to the town. The error the commissioners committed was simply in becoming lessees of a subsidiary water-supply from Edinburgh without any Parliamentary title, or heritable or legal right. They took no part in promoting the Edinburgh Company's Bill, as Portobello and Musselburgh did; and the plain consequence is, that in the event of either of those municipalities getting scarce of water, Dalkeith might have its supply diminished, or it might be cut off altogether. Such an event is, of course, not very probable for the present; but it is by no means impossible. Whatever may be said about their supply of bread at this moment, it cannot be affirmed that their water is sure in Dalkeith.

Some mistakes seem also to have been made in the matter of the Eskbank drainage. Eskbank, we may mention, is a sort of fashionable suburb of Dalkeith, chiefly inhabited by retired citizens of Edinburgh and merchants of Leith, with the usual sprinkling of half-pay officers and anglo-Indians, who seem to gravitate to such places by some inherent process of selection. A portion of the site, it should seem, lies at a pretty low level; and although considerably elevated above the bed of the river, it is nevertheless dangerously close to the surface-water, which may be found on digging 4 ft. or 5 ft. almost anywhere in the neighbourhood of Dalkeith. Under such conditions, it is by no means safe to have cellars below the basement floor of the houses. Yet this was the origin of a very hot controversy which followed in the local newspaper for the period of six weeks, between a certain gallant captain of the navy and the Sanitary Authority, in which our readers who are conversant with such descriptions of duels will easily imagine that the captain was no match for the commissioners! Let us hope that some good may come out of the discussion, for the drainage of Eskbank is unmistakably defective.

A very pretty little cemetery has recently been added to the two parish graveyards of Dalkeith. We can hardly call it an extramural or even a suburban cemetery, for it lies between Eskbank and Dalkeith, right opposite the R. C. chapel, and adjoining the Public Schools. There is a very tasteful mortuary monument worth noticing in this little cemetery, of white Carrara marble, erected by the Postmaster to the memory of his wife; and not far off in the churchyard of the West Kirk parish, there is a beautiful Cairngall granite obelisk erected by Mr. David Jerdan, to the memory of his wife, who was a sister of Dr. Samuel Smiles. It has engraved on it an appropriate Scriptural quotation in the original Greek. The churchyards, of course, belong to the parish; the cemetery is the property of the Parochial Board.

There is, we understand, at this moment a project on foot of cutting a new street through White Hart-street at right angles to Buccleuch-street, and also of opening up and otherwise improving the labyrinthine closes and densely-populated wynds in the High-street, some of which, such as the Flesh Market-close, Campbell's-close, Leyden's-close, and the Laigh-close, would be all the better for being reformed altogether. Without doubt this is the next and probably most serious task before the Commissioners, and should not be carried out, let us suggest, without a well-considered plan and a collateral system of drainage.

We have left ourselves very little room to describe the surrounding colliery villages, and, indeed, most of them are not worthy of description. We must except those on the Dalkeith estates, however, such as Thorniebank, Cowdenfoot, Smeaton, the Cowpits, and others, which are perfect models of labourers' cottages, and which, we believe, were erected under the personal supervision of the Duke of Buccleuch, who has long been president of the Agricultural Labourers' Cottages Building Association. The villages on the other, or landward, side of Dalkeith, such as those which surround the Millerhill Station, are literally a century behind the age. We are afraid some of the wealthy and liberal colliery proprietors of Midlothian have been spending more money on their steam engines than their cottages!

Dalkeith, we have to observe in conclusion, compared with similar Scotch towns we have examined, such as Stirling and Dumfries, is in all essential respects (if we except its drainage) in a state of advance; and, furthermore, if we consider the beautiful grounds and district of country in which it lies embosomed, it is a perfect paradise when contrasted with such colliery towns as Falkirk or Ardrie. There is, besides, a spirit of great earnestness and desire for improvement existing on the part of the local authority, as well as the conterminous proprietors, which we do not remember to have often met with in our wanderings beyond the Tweed.

THE TWO WATER-COLOUR EXHIBITIONS.

BOTH the Institute and the Society of Water-colour Artists held their private view last Saturday, and opened on Monday for their respective winter exhibitions of "Sketches and Studies." The simultaneous arrangement, whether or not intentionally prompted by a spirit of rivalry, is inconvenient and undesirable, and is calculated to injure the opening day of either one or both exhibitions by dividing the visitors. In this case the old society was the gainer, and seemed to draw by far the larger number to its private view, the other gallery being thinly attended in comparison with what is usual. The "Society" being the older establishment, had the fair claim to first consideration, though not only on that ground, for we have rarely seen a better winter exhibition in its rooms.

Following this example of the multitude, and giving precedence to the older society, we may say a word first upon a few drawings which have special interest for us as illustrating architecture. *Facile princeps* among these, and indeed in its way one of the very best things we have ever seen in this exhibition, is Mr. Ruskin's water-colour sketch of a part of the interior of St. Mark's, Venice (28). This is a "sketch" only in the sense that it is not all equally completed, certain parts being only lined-in sufficiently to give the continuity of the architectural design; but as far as the coloured portion goes, it is about as minutely finished as anything could be, though in light tints. It would be impossible to speak too highly of the delicacy and conscientious study with which the colours and markings of the various marbles are given, and the whole anatomy as well as complexion of the architecture realised; indeed, as we heard it observed by one of the greatest water-colour artists of the day, the drawing suggests the idea that if one were to attempt such study in detail for a large work, and carry out such detail along with the general impression or effect, a very few paintings would have to suffice for a lifetime. We hope that this is not the last of Mr. Ruskin's drawings of this class that we are to see.

We would next point out to the architectural visitor the drawings at Rome, executed on the spot (as the catalogue informs us) by Mr. H. P. Rivière. If we are to take it, as we conclude, that these drawings were really finished as we see them here, in the open air and before the buildings which are delineated, we must compliment their author very highly upon them. They are admirably true in tone, have the appearance of finish without hardness or labour, and represent the architectural detail with combined truthfulness and picturesque effect. Among them may be named "St. Peter's and the Castle of St. Angelo" (93), "The Interior of St. Peter's" (221), and the view of the Temple of Venus and Rome (275); the latter is especially excellent. Not so much can be said, we fear, in favour of another set of architectural studies by Miss Clara Montalba, who has been working at the Thames bridges, and sends several studies, consisting generally of a drawing taken close to a pier or under an arch of one of the bridges, and showing other buildings in the distance. One of them, perhaps in one sense the best, shows that abominable pier of Blackfriars Bridge in hard and disagreeable prominence; but the tones and texture of the material in the others are anything but satisfactory, and they cannot rank as good architectural illustrations. A good sketch of an architectural subject, in very different style from any of those already named, is the view of the arch of Constantine, with a small bit of the Colosseum in the foreground (407), by Mr. Arthur Glennie.

Quitting this special class of subjects, and taking the exhibition generally, we are really quite unable to name half the works which deserve attention, and which (bearing in mind always that this is professedly a "sketch" exhibition) show most refined excellencies. The greatest executive painter of the day naturally comes first. Mr. Tadema's one contribution occupies the centre place on the second screen, which has been his by custom for some years back. It is a Roman interior, of course, exhibiting an aged epicure, "an old bachelor" (356) draped in saffron robes and reclined upon a couch, behind which is seen a marbled bas-relief most beautifully painted; in front a stream of water from a bronze head spouts into the middle of a basin in the marble floor. Every one will understand what are the characteristics of such a subject in Mr. Tadema's hands. The present example, a very small-size work, is even exceptional in a minuteness of finish which Meissonier alone could rival. We may next turn to the beautiful little works of Mrs. Allingham. This lady also disdains to send sketches, and there is no difference whatever in finish between her contributions to the winter and the summer exhibitions. "In the Hayloft" (204) shows us two little children crouched against the mass of hay on the floor of the loft. It is a trying experiment, for a great part of the picture consists of hay, yet the whole is so beautifully handled, and the two children seem so well worth a considerable framework, that the result is quite satisfactory as a picture, and the children are painted with all the refinement and sympathy which characterise the artist's numerous child-subjects. An exquisite little picture in quite a different way is "The Hayfield: Albury, Surrey" (306),—a hayfield in bright sunshine, backed by an amphitheatre of trees on a rising bank, the masses of foliage covered with a shimmer of light and shadow, seen through a slightly hazy heat, which is an exquisite realisation of one of the most beautiful and evanescent effects of nature. There are other works by the same artist, all with more or less excellence.

Mr. Alfred Hunt, as usual, exhibits drawings which might pass for the work of so many different hands, so perfectly distinct and free from manner are they. "Capel Curig" (17), a dark stormy scene, is a good example of his power in one kind of view, and "Twilight—Whitby" (82), a fine realisation of a half-lighted effect of a view only indistinctly discerned through the dusk. Among Mr. Albert Goodwin's contributions, the best is "The Overgrown Park—Allington Castle" (88), where a delightful piece of red ivy-grown ruin forms the centre, with a foreground of rushes and other wild

growths. Mr. Thorne Waite's "Outdoor Studies" come more than any we have yet mentioned into the category of work for which the winter exhibitions are professedly intended, and are admirable specimens of free and broadly-handled sketches. We would particularly notice No. 6 of the set (293); in the same artist's sketch "On the Cotswold Hills" (250), the sky and the landscape seem to be out of keeping, as if they ought to have belonged to different drawings.

Some very charming drawings are contributed by an artist whose name is less familiar, Mr. G. H. Andrews, of whose works "Brightlingsea Hard" (386), and the "Ragged School at Cardiff" (417,—an old hulk to wit), should be looked at. One of the recent members, Mr. H. M. Marshall, sends some very good little studies. Among the old members, we have seen Mr. Geo. Fripp better represented than in this exhibition; Mr. A. D. Fripp, on the other hand, has seldom shown his own peculiar excellence in delicate and pure water-colour more than in "Harvesting, Dorsetshire" (211). Mr. Wallis's scene in a marriage registry at Bruges (258) is a study remarkable for its combination of broad and rich effect, with marked individuality of character in the figures. We might have mentioned among the architectural subjects Mr. A. Goodwin's admirable and careful view of High-street, Salisbury, with the well-known spire seen over the house roofs (118). In speaking of Mr. Wallis, we should not have omitted mentioning, first, his larger and more highly-finished study, almost a finished picture, "Luca Signorelli" (122), where the great artist, gowned and grave, is seen coming down some steps alongside a garden-wall, from over which some merry girls shower flowers upon the long-haired youth who carries the artist's portfolio. There is the making of a fine oil painting in this, and we hope to see it made. There are many more studies and sketches we would gladly comment upon, but space forbids. We should not omit to mention, however, that among the contributions are several sketches by H.R.H. Princess Louise (who is an honorary member of the Society). These are sketches taken in Canada, and though slight, are very artist-like in style and feeling, and have the appearance of great truthfulness as representations of local scenery: the "Courtyard of the Citadel, Quebec" (148), is particularly good. The Princess was among the visitors on the private view day.

Having in mind what is proverbially said in regard to comparisons, we will not follow out any between the exhibition of the Society and that of the Institute, but content ourselves with mentioning the works which pleased us in the latter exhibition, merely observing that the task is a shorter one in this case. Mr. J. D. Linton's name cannot, of course, be passed over, but he has nothing of importance; for the large study for "The Flag of Truce" is an old work, and his single figure, entitled "Forget-me-not" (245), is little but a study of colour and costume, the face being very characterless. Mr. A. C. Gow carries off the honours for his two contributions, "Stragglers" (78) and "The Old Bachelor" (236). The former represents the interior of a house in which two wounded and bandaged soldiers have taken refuge, to whom a little girl enters through the open door, bringing them a pitcher of water, her eyes wide open with wonder and compassion. The motive is an old one: it has seldom been better treated. The other work represents the figure of an old gentleman of the Queen Anne or early Georgian era seated at a window; a highly-finished drawing, not a study; both the countenance and costume show admirable painting. Among studies of the same kind, Mr. C. Green's "1793" (357), a figure in the French costume of that memorable period, may be mentioned; and (better) Mr. Townley Green's little picture,—a complete picture on a small scale,—entitled "Rich gifts wax poor when givers prove unkind" (380); a delicate girl in a green dress before a crimson-lined cabinet, from which she takes some of [the "gifts" referred to. Mr. Seymour Lucas has a clever and effective figure-study, a man revolving a "Question of Date" (29) in regard to an old helmet. Mr. Hugh Carter continues his studies in the key struck by Israels, of whom he is at least a very successful follower. Among a number of black-and-white studies in the small room, Mr. C. Green is very good in the representation of "Racecourse Outsiders" (151), and Mr. W. Small, in his spirited representation of the "Athletic Sports" (172) at a public school, showing the head boys in a foot-race half tumbling to the goal in the last stage of spent wind; a good picture might be made out of this. The same artist's coloured study of a "Limpet-gatherer, Banff" (74), is very good, though rather *prononcé* in colour. Mr. Wolf's two lion studies, entitled "Night" and "Morning" (154, 173), should be noticed.

Among landscapes, we see with pleasure that Mr. Thos. Collier is in his old place on the centre of the east wall, with a subject in his old style, "A Deer Park in the South Downs" (271), a noble water-colour study. That Mr. Hine's studies are admirable goes without saying; Mr. James Orrock shows his usual fresh open-air feeling, especially in "Stacking Hay" (235), Mr. Aumonier has a good little sketch, "Mousehole" (238), a fishing village; Sir Coutts Lindsay's sketch of a Mount Athos convent (99) is a very interesting study of quaint architecture and noted place, and Lady Lindsay's able study of a head, titled "Antonino" (111) should be mentioned at the same time. Both these artists send other interesting drawings. "The Ribbon-road, St. Gothard Pass" (287), by Mr. W. L. Thomas, is good, and yet more so is "Fog before Sunshine" (310), by Mr. Kyrke Penson, a very successful realisation of a very weird and difficult effect. Mr. Fulleylove has two Hampton Court studies, of which the larger (64) is deficient in local colour and consequently not real; the building is not red enough, and the yew trees are not nearly dark enough; the other (296) is admirable, and fully bears up the repute the artist has begun to acquire for studies of old gardens in this style. There are some pleasant little bits of landscape on the screens; of the amount of common-place conventional landscape it is not worth while to speak particularly, neither of the little pen studies of theatrical characters of the day in the small room, except to note the conclusion that a society which hangs them must evidently be rather in want of good matter to cover its walls.

FROM THE BANKS OF THE SEINE.

Old Londoners, exiled to the banks of the Seine, had the rare opportunity, some days since, of reviving cherished recollections, in a fog as dark if not as ruddy or as smoky as London can produce; and if it did not bring out the link-boys, it necessitated the use of gas at three in the afternoon. Happily, however, in Paris such inconveniences, though not unknown, are utterly free from that horror of the London atmosphere, "the blacks." As long as we in London are contented to continue the imperfect and thriftless methods of our grandfathers in the warming of our houses, we shall have to suffer from the inconvenience of the "blacks," a very evident proof of the immense loss of caloric the present system induces. Our own advertisement columns are weekly filled with accounts of the most ingenious inventions to prevent such waste, and to obtain that still more important desideratum, a well-warmed house; but yet we continue, when we visit our friends, to shiver, while the grate is cheerily blazing away its tons of cannel or Wallsend for the benefit of the chimney-sweep and the coal-merchant. Paragraphs might be filled with the mere enumeration of the ills to which such a system gives rise,—the pollution of the atmosphere, and the list of diseases increased; our public buildings doomed to everlasting dinginess; our back-yards rendered incapable of producing blooming flowers; our muslin curtains (where we are extravagant enough to use such luxuries), entering as a terrible item into the washing-bill in many other ways augmented by "the blacks." We remember once a well-known Academician showing us in his pleasant garden, thirty miles from London, the effects of its smoke on that portion of the bark of the trees turned towards the capital; and those familiar with the Channel will recollect to have met more than once with a dense fog out at sea, aggravated by the denser atmosphere blown southwards from the metropolis. In this respect, if not in many others, we scarcely envy our be-wintered compatriots on the banks of the Thames.

Paris, which is already, it might be imagined, rich enough in museums, was endowed a week ago with a new and interesting addition to its instructive collections thrown so freely open to the public, not alone on week-days, but on Sundays. The so-called "Musée d'Artillerie" of the Invalides, and its superbly-arranged collection of arms of all ages, has long been one of the features in the visit of the intelligent stranger to Paris, and a delight and instruction on the Sunday afternoon's holiday with the residents; this collection has now received a further addition to its series of armed *mannequins*, representing the warriors of the Middle Ages, in two new rooms; one, in which has been collected a series of models of the cannon in use since the invention of gunpowder; the other, far more instructive, containing a number of ancient arms, representative of the early ages, the stone age, the bronze age, that of the Romans, the Greeks, and the Gauls. But the feature of this new room consists in the eighteen life-sized figures representing the armed warriors of the Greek and Roman armies, and in which each feature of the equipment, the arms, the armour, and the accessories, has been restored, in many cases from examples actually in the museum, in others from specimens in other collections, or from painted and sculptured representations. Here we have a series of Greek soldiers such as they were in the days long before the Christian era; and the Roman soldiers who conquered the world, together with three superb figures of gladiators in all their paraphernalia. For the Sunday afternoon it would be difficult to imagine for the youngsters a more agreeable sequel to the schoolroom of the week day and its dry records of Roman and Greek history than this new museum which has been thrown open to the public.

Not long since we spoke of the number of houses built in Paris during this year; as a complement to this, the recently-published bulletin of the Prefecture of the Seine for the year 1878, which has been inserted in most of the newspapers, may not be uninteresting. In this document (rendered intelligible to English readers by the transformation of francs and mètres into pounds and yards) we find a concise table of the topographical statistics of Paris. The capital of France contains 74,740 houses, in addition to the public buildings; these houses contain 337,587 shops and workrooms, and 684,952 dwelling-rooms, forming a total of 1,022,539. The value is calculated at more than twenty-three millions sterling, of which ten millions go for the former class, and the remaining thirteen millions for the latter. The public ways, streets, avenues, and boulevards, not including the numerous passages and courts, reach the total length of 545 miles, of which 127 miles are planted, a piece of statistics to which we venture to draw the attention of our Board of Works. Paris owes one of its chiefest charms to the large quantity of trees with which it is planted, and which hygienically and pictorially produce no small effect on the city. The drains reach a length of 355 miles, but out of the 75,000 houses of Paris, there are only 22,455 which are supplied with drain-pipes. The total superficies of the capital is more than 19,000 acres, of which 3,600 acres are occupied by the public roads, 442 acres in squares and public gardens, some 231 acres in cemeteries within the walls; the Seine between its embankments occupies more than 500 acres, and the buildings, houses, gardens, &c., more than 14,000 acres. As a last detail, the total population in 1878 being 1,988,806 inhabitants, the mean to the acre is about 100.

In what quarter of the capital are the builders not at work, for recent statistics show that, in spite of strikes and bad weather, the building trade of Paris is the most prosperous of all the Parisian industries? Near the fashionable neighbourhood of the Champs Elysées the whole *Quartier Marbœuf* is a forest of scaffold-poles,—a wilderness of blocks of stone and cement and iron joists; the Boulevard St. Germain is still encumbered by the contractors' wagons, and the historic old Hôtel de Luynes, of which we once spoke in these columns, has, if not ceased to exist, so changed its appearance that it is no longer recognisable; within a few steps of its old and now disappeared court-yard, the publisher Hachette is building a large house, and almost opposite, the Passage de Commerce, and the site of Marat's house, is gradually being transformed, as others have been in the neighbourhood of the Parc Monceau. The same architectural style is being everywhere continued, but greater simplicity and purity of detail are evident; monotonous, but producing houses excessively commodious and returning a very respectable income to their fortunate owners, a great consideration in the present day, and so well understood here, that we were told not long since, by a large contractor, that in building on a piece of land in Paris, he em-

ployed invariably a practical architect-builder (who only differs here from the architect in not having served his time in an architect's office), while, in building a country-house, he turned to his friend, the artistic architect. Such, we believe, is the reason and the excuse for the monotony and the want of that architectural consideration which are brought against the aspect of Paris. Parisians regard their city as a city to dwell in at all seasons of the year, and necessarily have recourse to flats. We, in London, owing to our few-storied and separate houses, in most of which a large amount of space is lost, are obliged to spread out to the suburbs, and our easier classes spend too much time in their, truth to say, far more comfortable and luxurious country existence.

Twenty years ago the English artists-world in Rome was divided between those who sided with John Gibson on the question of painted statuary, and those who were shocked at what they unlearnedly considered as vulgar. A great personage, who had commissioned Gibson to execute for him a statue of Cupid, on hearing at a distance that Gibson intended to colour the work, wrote to request him not to do so, as he objected to coloured statues. Gibson, however, replied somewhat curtly, that he might take the statue or not as he pleased, but that he intended to colour it. At that time, indeed, throughout Gibson's life, he was very fond of giving his brother Benjamin credit for keeping him well informed as regards the manners and customs of the ancients, and the exceedingly interesting passages that Mr. Bell quotes from Gibson smack greatly either of the classical acquirements of "my brother Benjamin," or perhaps still more of the handiwork of some one of those admiring and enthusiastic English women to whom we have heard it said Gibson was fond of imparting his happy thoughts over a dish of tea. Mr. Bell's view of the coloured statues of the ancients being all but invariably confined to the priestcraft is singularly confirmed in the present day by the conservative habits of the Roman Catholic Church, as we see by the elaborately coloured and begemmed statues of the blessed saints which disfigure so many modern churches on the Continent and in England, and are now, more than ever, objects of commercial value in the sacerdotal neighbourhood of St. Sulpice. We must, however, all feel as much on the banks of the Seine as in London how much we are indebted to Mr. John Bell for his exceedingly interesting communication.

THE FORESTS OF THE NORTH.

WOOD-CUTTING in the Norwegian forests commences towards the end of the autumn or the beginning of winter, as soon as the circulation of the sap ceases. It is always an arduous, and sometimes a dangerous occupation, for the localities of the forests are very lonely, and far removed from habitations, so that the wood-cutter is unable to return home for the whole week, but has to camp out in a little fir-log hut, taking with him sufficient provisions for the week, and keeping up a good fire with the branches, without which, indeed, his life would be insupportable. On Sunday he returns, following the tracks through the snow, made for the carriage of the timber, and guarding himself in dangerous places by wearing a pair of long wooden skates called "ski." After a time, when the roads become more marked, and the marshy ground is frozen over, the timber is brought away by the hardy Norwegian horses to the banks of a stream, where it is piled up in heaps called "tommerlunder," and there marked with the peculiar cut of the owner of that part of the forest. As soon as the rivers are free in the spring, the timber is floated down, a good deal of ingenious engineering being displayed in the formation of little artificial lakes to facilitate the passage when the water is shallow, while every now and then a chain of wood, called "laendser," is thrown across the stream to assist the course of the timber fleet, and enable it to be broken up and distributed according to the marks and destination. The whole of this part of the business is managed by a committee of forest proprietors, everything being done strictly according to rule, and the expenses divided by a regular tariff. This "flotation" is an operation which requires very skilful and experienced workmen, for the difficulties are neither few nor trifling. Sometimes a great mass of timber is suddenly brought up by a projecting bank or a rock in the middle of the stream, so that a thousand or more pieces become detached and piled up one upon another. The floaters have a perilous job before them in freeing the mass, which they do by balancing themselves upon the loose timber, and pushing each piece forward with a long pole, until, at length, the hitch is overcome, and the whole pile suddenly darts forward. This is the critical point, however, for the workman, who has to use all his presence of mind and rapidity of action to prevent being carried away himself in the boiling flood, and to regain the shore in safety. It is worse still at the foot of the cataracts, for the timber keeps turning round and round, much to the detriment of the wood, which is not able to get out of the whirlpool without assistance; and the whole period of the water transit is one of great anxiety, not only to avoid actual loss, but to prevent the timber remaining in the water longer than can be helped. If the timber fleet does not arrive at the shipping port at the proper time, the wood has to be left in the water until next season, which represents a considerable loss of capital, not only in the deteriorated quality, but in the loss of the market.

Let us look a little at the economical value of the Norwegian forests. A rough estimate has put them down at about 550,000,000 of francs, or 22,000,000*l.*; and, according to the last census, 13,638 persons were occupied in the wood-cutting and the rafting, the greater part of the men being unmarried and between twenty and thirty years of age. A curious calculation was made in 1870 as to the distribution of the forests in regard to consumption, when it appeared that out of 446 communes or parishes, 102 had a good deal more building-timber than was sufficient for their own wants; 129 had as much as they wanted, and no more; while 215 had not sufficient, and were compelled to buy. In the matter of firewood, 139 parishes were more than amply provided for; 173 had just enough; and the remaining 134 had to buy. The exportation of timber from Norway has doubled during the last quarter of a century, the principal ports for the timber trade being those on the Skagerak, to the east of Cape Lindesnaes; while the ports on the west and north of it scarcely send away more than 4 per cent. of the whole. By far the largest quantity (about 78 per cent. of the whole) is sent away from the ports between Skiensfiord and the Swedish frontier. The following are the proportions of the different timbers exported in 1870 and 1875.

	1870. Per cent.		1870. Per cent.
Rough or squared timber	30·6	.....	38·7
Sawn timber.....	48·6	.....	37·9
Planed timber	10·9	.....	14·5
Small, for fire or pit wood	7·7	.....	5·7
Small, cut for staves, &c.....	2·3	.....	3·2
	100·0		100·0

The latter item consists principally of birch wood, and is insignificant, by far the largest portion of the exportation being composed of fir and pine. The numbers mentioned before of those who are employed in the forest trade, of course do not include the still greater number of those occupied in the supplementary wood trade, such as makers of matches, wood oil and wood paper, the figures of those engaged in these industries, being 50,780 persons, in addition to 662 saw-mills, occupying 6,350 workmen. The following table shows the average rate of timber exportation between 1870-74, in stères (1 stère = 1¼ cubic yard):—

Great Britain.....	1,308,400	Stères, or 55·3	per cent.
France.....	321,600	,, 13·6	,,
Holland	267,900	,, 11·3	,,
Germany.....	190,000	,, 8·1	,,
Denmark.....	134,100	,, 5·7	,,
Belgium	90,500	,, 3·8	,,
Other countries...	35,000	,, 2·2	,,
Total	2,347,500	,, 100·0	,,

The average value of timber exported between 1871-75 was 61,000,000 francs per annum, at the average price of 20s. 9d. per stère. There are also exported about 250,000 kilogrammes (1 kilogramme = 2¼ lb.) of oak bark every year, together with an average of 4,500,000 kilogrammes of wood pulp for paper-making. This branch of trade, however, is largely increasing, and in 1878 it amounted to more than 19,000 tons,—a very large amount, seeing how recent is the commencement of the trade of making wood pâte, few of the factories dating further back than 1870. The Norwegian Court in the Paris Exhibition last year was characterised by a very fine series of exhibits of wood, from the cut balks of pine to the various consistencies of pulp, and finally the paper resulting from it. One very striking application of the pâte was on wall, cornice, and moulding decorations, which possessed a remarkably clear and sharp outline, and is evidently well adapted for ornamental building purposes.

Let us now turn our attention to the neighbouring country of Sweden, celebrated for long past for her forest riches, which are so great, that, after supplying her own wants, she is able to export very large quantities. Like the Norwegian forests, those of Sweden are composed principally of different species of fir and pine, birch, alder, and aspen trees, with the oak in the provinces south of the Dalelf, and the beech in the still more southern districts. In addition to the true forests, almost all the large properties, whether State or private, possess immense pasturages, more or less wooded with the trees above mentioned, as well as with ash, elm, maple, lime, &c., while some localities in Middle and Southern Sweden possess large plantations of mulberry trees. It is somewhat difficult to give an exact computation of the Swedish forests, as Lapland, which contains large woods, partly the property of the State and partly that of private individuals, has not been yet surveyed. Swedish territory, deducting the rivers and fiords, occupies 40,672,000 hectares (1 hectare = 2½ acres), from which should be subtracted 4,693,000 hectares for fields and cultivated land, leaving 35,979,000, which may be classed under forest-land. But a great proportion of this is rough and desolate moorland, strewn with great rocks and intersected by bogs and marshes, so that we cannot place the true forests at more than 16,443,000 hectares, or about 40 per cent. of the whole country; and at least two-thirds of this are situated to the north of the Dalelf, the southern provinces being comparatively sparsely wooded. Of all the rough and forest-land, 5,221,500 hectares belong to the State (about 15 per cent.), and the remainder of 30,757,500 to private owners.

HALIFAX AND ITS TRADE.

FEW of the great towns of Yorkshire are better worth note than Halifax. Its trade is important, its influence great, its parish almost boundless; and its history, though not broken in upon so oft as that of less famous towns by wars and rumours of wars, is interesting. It has known for generations a continuity of progress, and though it has more rivals now than it had, there are grounds for a belief in the continuance of that progress still. It may not be uninteresting to glance at some of the facts which show the past and the present of this famous old town, and the best starting-point is that of about forty years ago. Premising that Whittaker, the historian, opines that in the deep valley where the parish church of Halifax stands, there "stood anciently a hermitage" which attracted many pilgrims; that its name is partly traceable to this fact; and that though once garrisoned by the Parliamentary army, Halifax has kept out of the way of armies generally, and devoted itself and its facilities to commerce,—let us try to glean a little information as to what Halifax was nearly two score years ago. Manufacturing on a small scale dates far back in Halifax, and it is thus not surprising that at the time we have named they had attained great growth. The manufactures chiefly produced then were enumerated as "shalloons, calimancoes, taminets, moreens, shags, serges, baizings, coatings, and carpets, with narrow and broad cloths, and kerseymeres." Cotton manufactures generally were growing; paper-making was also increasing, and the coal-mines not far distant were a source of wealth to the town. The Aire and Calder and Rochdale canals were the chief sources of communication for traffic, and thriving manufacturing villages around were also served by it. As to the town itself, it might be said that it was well lighted with gas and supplied with water; that the town government was in the hands of "two chief constables and one deputy-constable"; that three churches, a large number of Dissenting places of worship, dispensaries, hospitals, and almshouses testified to the piety, benevolence, and charity of the town; whilst mechanics' institutes and other literary institutions supplied it with literary food. Its extensive parish, the largest in England, contained in 1821 109,809 persons, the township of Halifax furnishing 12,628 of these with homes. Halifax had been made a Parliamentary borough in the time of the Civil War, and it lost that privilege after the Restoration. When the Reform Bill

gave it again direct representation it had 531 electors in the township of Halifax, Owram, and Ovendon. It had then half a dozen cotton-spinners, thirty stuff manufacturers, and large numbers of worsted-spinners and wool-staplers. About a dozen coaches ran to and from the town in this pre-railway time, many carriers, including the Pickfords, Deacons, Cockerhams, and Sutcliffes; whilst there were daily conveyances by water. The post-office was in Cheapside, but the days of "Tabitha Bagnold, post-mistress," and the arrival and despatch of the old mail-carts and mails have long since vanished. These, however, were outlines of a picture of Halifax in the days when, though its trade was large, the town was small to what it now is, and its institutions and its commerce were only the miniature of what they have now attained in extent.

First, as to the population. It may be said that in 1871 the borough of Halifax had 3,704 acres enclosed in its bounds, that its population was 65,510,—five times that of fifty years previously; that it had 13,970 inhabited houses; that the number of electors on the register was 10,083 (that number being swollen now to 11,800); that it was assessed to the Income-tax for the large sum of 1,260,000*l.* under the four initial letters which head the schedules so much dreaded by taxpayers. It may be here added, as illustrative facts to show the importance of Halifax, that in the postal district of which it is the head, 2,500,000 letters are yearly delivered, with 300,000 post-cards, and 3,800 newspapers weekly. Of post-office orders, in the town the amount issued yearly is 60,000*l.*, and the amount paid about 51,000*l.* annually. Its name gives the chief title to three important banks, issuing notes to the amount of 60,000*l.* Thus led, whilst dealing with rather dry statistics to the trade, it may be said that in the sub-district of Halifax, the inspector of mines names twenty-eight collieries as in operation at the date of the last return, and three as being then sunk; whilst the names of the owners of the pits are known in many instances well where coal-merchants most do congregate. Near to Halifax, if not exactly within the district, are some of the famous ironworks which have made the south and west of Yorkshire famous for its metalliferous productions. But much more than for these is it noted for its textile trades. "Woollen, cotton, worsted, silk, and carpets" head the rank of its manufactures, and it may be doubted whether the order named would not express the importance of these trades to Halifax, but there are no very reliable statistics of these industries to exactly state the extent. Sufficient to state, that for textile fabrics the locality around Halifax is classic ground: that there are ancient mills to which historic interest now attaches, and that these have known growth as they have adapted themselves to the changing requirements of the age. For the days of the industry in the olden style, when hand-spinning was known, have passed away, and as machinery and increased output have gradually cheapened the cost of production, the demand for all classes of textile fabrics has wonderfully increased, and with it the trade of the great district that is in and upon the largest "parish in England." For it is not only that Halifax has grown and has swollen its trade, but it is also that all the surrounding villages that add largely to the manufacturing output of the district, have increased theirs, and there has been a consequential growth until it may be said now that Halifax is the centre of a belt of manufacturing places that have become almost joined to it in everything but the name. These are tributaries to its trade, and they to a very large extent swell the markets of the town,—alike those devoted to sale of the produce of the mills, and those where the town dwellers purchase from their country cousins. It scarcely needs to be added that as the trade of Halifax has grown, and as the population has increased, those institutions to which we have referred have grown, and alike in their numbers and in the architectural pretensions of their homes, they would discredit not a large town. One or two of the ecclesiastical structures, it is true, are not noted for their elegance, but the bulk of the public buildings are well adapted for the uses to which they are put; and the philanthropic and literary associations of the town are in numbers and order excellent testimonies to the character of the inhabitants.

As to the future of the trade of Halifax, it may be said that the question is one which depends on the larger one of the question of the textile trades of England. A very large portion of the manufactures of Halifax and its district are for export, and it is evident that the export trade of this country has experienced several severe shocks. In cotton and woollen goods we have more competition to meet with than we had, and thus it may be fairly said that the great industries of Halifax are more pitted against foreign producers than they were. Hence, every attempt to cheapen the production is needed, and every enlargement of the area of consumption amongst neutral or non-producing peoples is a direct benefit to the trades. A little has been done in both these methods of recent years, but not so much as is requisite to place the textile trades in England on the footing they were. The trades of Halifax will be much affected by these and allied circumstances, and with that national attention to the state of trade that is needed, these great textile trades should increase. The town is in a great coal-field, furnishing abundant and cheap power; it has the advantage of water communication, and of abundant railway facilities; its trades are well centred, and often old established, and there is abundant capital and machinery almost perfect of its kind. A town placed as it is at the head, almost, of certain trades, and certainly in a district which embodies the centre of these trades, must attract to itself those who deal in the production, and the residential quarters around Halifax are naturally the abodes of wealthy manufacturers in great numbers. Wealthy as the district is, it has not yet gained that slothful state which wealth too often brings with it, but it possesses abundant energy and public spirit, which must cause its town to advance with the advance that the great trades on which it chiefly depends may know in the future. But it is becoming more and more evident that what our great industries will have to have done for them will be such a change as will enable the product to be improved and the cost of production lessened. This is what Halifax will need to turn its attention to, and with it assured, its future would be also assured with the greater future of the textile trades of Britain. But without it there will be possibly a gain of wealth, but certainly that ultimate accompaniment which, in Goldsmith's well-known lines, typifies a land "to hastening ills a prey."

EDINBURGH NEWS.

The Act of Parliament authorising the complete restoration of St. Giles's Church stipulates that a sum of 10,000*l.* shall be paid to the congregation occupying the nave of the building to enable them to erect a new church. In making his very liberal offer to be at the entire expense of the restoration, Dr. Chambers gave it to be distinctly understood that he would have no concern with the vested interests of the congregation of West St. Giles's, and the sum required for the erection of the new church consequently fell to be provided for otherwise.

A public meeting was called in the Council-chamber to consider what means should be adopted to raise the necessary fund. The Lord Provost, who presided, referred to the depressed state of trade, and to the heavy demands that had lately been made upon the liberality of the citizens. No resolution was come to, and there is reason to fear that the opportunity may be lost. A period of twelve months is allowed for consideration, and it is to be hoped that before the expiry of that period definite action may be taken.

The expenditure in church building within the last few years in this city has been remarkable, and there seems as yet to be no check to the activity of the promoters of church extension. The last scheme which has come under our notice is for the erection of a church at Dumbiedikes, a name rendered classical in "The Heart of Midlothian."

This district, comprising the sloping ground to the west of the Queen's Park, has been covered by dwellings for the working classes, and the parochial authorities have, for some years past, provided an iron church for the use of the residents. This church is now to be replaced by a permanent structure. The design has been entrusted to Messrs. Thornton, Shiells & Thomson, and the requirements are that the building shall be as economical as possible, and fitted to accommodate a congregation of 800. The site being surrounded on all sides by high tenements, the architects have presented a high-pitched gable to the street, pierced by elongated lancets, and flanked on one side by a simple broach spire rising to a height of 140 ft., which will be seen from the adjoining park overtopping the houses. The interior consists of a parallelogram surrounded on three sides by a gallery. In a basement, formed by the sloping of the ground, a hall has been formed for week-day meetings.

Operations have begun for the erection of the new United Presbyterian church at Morningside. The site is a good one, at the angle of Chamberlain-road and Morningside-road. The principal elevation faces Chamberlain-road, to the north, and at the north-west angle there is a tower. The church consists of nave, transepts, and aisles, and there are a hall, vestry-room, &c., to the south. The style adopted by Mr. David Robertson, the architect, is Norman, and the only objection we have to the design is that the tower more resembles an Italian campanile than a Norman tower, as it is surmounted by a projecting depressed sloping roof. As the site is in the immediate proximity of the Episcopal and Free churches, which are each provided with spires, the one being remarkable for elegance of proportion, the other for the reverse, the adoption of a tower will thus give a distinct individuality to the new church, and not enter into competition with its neighbours. The aisles (according to a practice now being generally adopted in Presbyterian churches where such features are used) are kept narrow, and only utilised as passages. The aisle windows are small, and the interior is chiefly lighted from the clearstory, which is pierced by triple lights, the centre one being higher than those flanking it. The aisle columns are cylindrical, with cushion caps; and there is a gallery at the north end, opposite the pulpit. There are two entrances; one from Chamberlain-road, and the other from Morningside-road, at the base of the tower, and these lead into a stone-vaulted corridor or narthex. The windows are to be filled with quarries of tinted glass; the pulpit, which consists of a broad platform with an arcaded back and front, is to be of oak; and the seating of yellow pine.

The scaffolding has now been taken down from the tower added to the Viewforth Free church, and the general effect is picturesque. The first stage is pierced by long narrow openings and the surface of the wall emphasised by a corresponding blank arcade. Four pinnacles rest upon the angles of this stage, one of them containing a turret stair, and rising higher than the rest. These pinnacles contain an octagonal belfry-stage, which is pierced by elongated double louvres filled in with deep louvre boarding. Besides the four angle pinnacles, the skyline is broken by minor pinnacles between, cutting up through a high open arcaded parapet.

Messrs. Sutherland & Walker have discarded the design originally prepared by them for the Rosehall United Presbyterian church, which was Gothic in style, and have substituted one of a Lombardic type, a style in which they have produced a very pleasing example at Hope Park-terrace, described by us at the time of its erection. The new church, which is already far advanced, is in the form of a Latin cross, with the arms very slightly pronounced. The gables are low-pitched, the principal one to the west being flanked by towers 70 ft. high, capped by low projecting roofs. The interior is to be fitted with open arcaded galleries on three sides, and this arrangement is marked on the exterior by two stages of semicircular-arched windows; those in the upper stage of the transepts being complete circles, three in number, separated by pilasters with enriched caps which carry enclosing arches. The upper range of windows in the west elevation are divided into two lights, and filled in with Italian Gothic tracery. Behind the pulpit is a large organ-gallery, opening into the church by a moulded arch, supported on corbel shafts with carved caps, and similar arches span the openings to the transepts. At the rear is a large hall, vestry, &c. The cost of the building will be 6,000*l.*, and it will accommodate a congregation of about 800.

Not far from this new church, and on the same line of road, stood the newly-erected Established Church of St. Leonard. With the exception of the walls, it has fallen a prey to fire, caused, it is said, by a beam having been allowed to project into the flue of the heating-stove. The spire and walls are intact, but if it is found necessary to erect buttresses to the side elevations to ensure their stability, it will help the design by breaking up the flat, characterless

monotony they presented. The interior of this church elicited the admiration of many, and a fine organ was, with the rest of the contents, completely destroyed.

The operations at the Argyle-place United Presbyterian Church have been pushed on most vigorously; the edifice is now roofed in and slated, but the upper part of the spire is still in progress. When referring to the plans we hinted that the detail was hardly up to the mark, and this is manifest in the building as executed. There is evidence of want of sufficient knowledge in this respect on the part of the designer; and the church and adjuncts, although of considerable dimensions, lack dignity, especially as regards the openings. This is the more to be regretted as the site is a fine one, open on all sides and upon a leading thoroughfare.

The German church at Bellevue, designed by Mr. W. D. Wemyss, is built up to the wall-heads, and the principals for the roof are in place. The architect has had rather scant means at his disposal, and the church is bare and uninteresting; he has chosen to spend as much upon a small spire as might have been more judiciously applied upon detail. This feature in juxtaposition to the high tower of the parish church will appear contemptible. The spire stands at the south-east angle of a gable, in the upper portion of which are two windows with centre mullions and trefoil headings; the doorway is surmounted by a gablet and flanked by small two-light windows; the side windows are wide and without tracery. The plan is a parallelogram, with a shallow apse for pulpit and organ, and there is a gallery at the east end over the entrance.

A site has been secured for the erection of a new United Presbyterian church on the ground occupied by Canonmills House, to the east of Eyre-place. A crescent is to be formed on the ground, and the church is to occupy an isolated position in front of it. The plan, as prepared by Mr. Starforth, shows a nave with flanking spire, and at the back is a spacious hall, vestry, &c. The style adopted is Early Decorated, the windows are large and filled in with rich tracery, and the spire is a particularly effective feature of a distinctly French type suggested by a well-known example. Provision is made for a congregation of 750. There is a gallery over the main entrance which is reached by a stair in the tower, and at the opposite angle there is an organ-chamber. A legacy of 3,000*l.* has been left towards the building of this church, the ultimate cost of which will be about 10,000*l.*

Free St. George's Church, Shandwick-place, erected about fifteen years ago, from a design by the late Mr. David Bryce, has remained incomplete until now as regards the tower. The style of the building is of the type of the Renaissance affected by the Jesuits. The tower, as designed by Mr. Bryce, was far from being a happy composition, consisting of a series of superimposed open belvederes, similar to those designed by him for the Bank of Scotland. It is now intended to complete the tower, and to Mr. Robert Anderson has been entrusted the task of preparing a new design. We shall look forward to this erection with interest, as it will come in a line, or nearly so, with the spire of the cathedral as seen from the vista of Princes-street.

The Hospital for Incurables has been erected in Salisbury-place, a narrow thoroughfare on the line of the tramways. In choosing such a site the convenience of lady-visitors appears to have been the chief consideration. There is no recreation-ground. The site is a confined one, and had to be cleared of several substantial dwelling-houses. An entirely isolated site of an acre or two in extent could have been secured in the suburbs. The style of the building is Italian, very simply treated. While aiming at economy, the architects, Messrs. Kinnear & Peddie, have, by careful attention to proportion and a skilful distribution of parts, succeeded in designing an elevation more pleasing than many which are much more pretentious.

The centre portion is three stories high, divided horizontally into three portions, the centre one being broader than those flanking it. The extreme flanks, to the right and left, are wings two stories high. The wings are entirely devoid of ornament, but the central portions are enlivened by balconies to the first floor and attached columns with moulded caps. The skyline is broken in the centre by a small pediment, and by well-designed chimney-stacks rising from the cornice.

By his will, the late Mr. G. H. Watson, brother of the late Sir John Watson Gordon, P.R.S.A., has bequeathed a sum of 11,000*l.* towards the foundation of a Fine-Art chair in the University. The conditions of the bequest are that the appointment of a professor shall be vested in the University Court along with the President of the Royal Scottish Academy, and that a course of instruction shall be given in the history and theory of the fine arts and collateral subjects. Prize-takers at the Life School of the Academy, not exceeding six in number, are to be entitled to attend the lectures without payment of fees. The professorship, it is understood, will be offered to one of the Scottish Academicians. It is to be held *ad vitam aut culpam*, and the occupant of the chair will rank equally with the other professors.

The Osborne Hotel, at the extreme west end of Princes-street, has been acquired by a newly-formed Liberal Club. The building is a pretentious one, decorated with compo castings.

The season for the planting of trees has been taken advantage of in different parts of the city. The sloping bank to the east of the Bank of Scotland has been planted both with trees and shrubs. The line of trees in Warrender Park recently acquired by the city has been continued eastward to Meadow-place; and a proposition has been made to line the Lothian-road with trees on one or both sides. On the east side of that thoroughfare, at all events, there is ample space available between the footpath and roadway. A few trees judiciously planted on the slope in front of the New College might be an improvement in that locality, but care should be taken not to obstruct the view to the north and west, which is one of the finest in the city.

BURLINGTON FINE ARTS CLUB.

THIS club has now on view a collection of the etchings of Méryon, which includes some interesting specimens of the artist which were not in the collection we previously commented upon, at Messrs. Dowdeswell's gallery. In the main, however, it will be apparent that the works included in the latter collection contained most of what makes the value of the Burlington Club exhibition; and what we have already said in regard to the nature of Méryon's genius and art need not be modified or added to in speaking of the Burlington collection. There are some interesting pencil studies, however, which we had not before seen. The preliminary sketch of the artist's life, prefixed to the catalogue, is interesting, and has the additional merit of not being exaggerated or over-enthusiastic in style. All who can should see the collection, to which admission can be obtained through any member of the club.

THE INTENDED FREE LIBRARY, MUSEUM, AND ART GALLERY, PRESTON.

THE town of Preston may, at no distant day, expect to be in possession of one of the finest buildings for free library and museum purposes of which any municipality can boast. The institution will not, indeed, be limited to the advantages which a library and museum in themselves confer, but the inhabitants will have all the benefits which a school of art and an art-gallery confer. The buildings proposed to be erected will, in this respect, be on an exceptionally comprehensive scale. For all this the inhabitants are mainly indebted to the princely liberality of one of their fellow townsmen,—Mr. Edmund Harris,—who bequeathed almost the whole of his property, amounting to upwards of 150,000*l.*, to trustees for the purpose of being appropriated, according to their discretion, to general educational and religious purposes. For some time past negotiations have been in progress between the corporate authorities and the Harris trustees, on a proposal by the former that the trustees should advance a portion of the testator's bequest for the erection of such a building as that to which we have referred. The trustees from the first expressed their desire to comply with the request, on the understanding that the land for the required buildings should be provided by the local authorities, and within the last week or two the final arrangements in this respect have been completed, the corporation having liberally met the Harris trustees by undertaking to provide the site, the value of which is estimated at 20,000*l.* The site is very advantageously situated about the centre of the borough, and in order to clear it, a large extent of property will have to be demolished. It will afford an area of about two acres, and the building will have three main frontages, one of these, the west frontage, immediately facing the fine new town and guild-hall, which was erected some years ago from the designs of the late Sir Gilbert Scott. A considerable portion of this elevation will overlook the open area known as the old market-place, whilst the north front will face Church-street, which, with Fishergate (which is a continuation of it) is the principal thoroughfare in the borough, the east frontage being in Lancaster-road, a wide and spacious new thoroughfare to the north, which has recently been constructed. The sum which the Harris trustees have consented to grant for the erection of the building is 70,000*l.* the whole of which will be expended on the structure.

Within the last few years several improvements have been made in the town, which is at present rapidly extending, more especially in a northerly direction, where streets for new houses have been opened out and built upon to such an extent that tramways have recently been formed along them. Two parks have also been formed on the banks of the river Ribble, which runs along the north and west sides of the town. Further improvements of a varied and important character are contemplated, to carry out which the Corporation will apply for powers in the next session of Parliament.

DECORATIONS IN ST. MATTHEW'S CHURCH, RASTRICK, YORKSHIRE.

AFTER various alterations and renovations this church has been re-opened and consecrated by the Bishop of Ripon. The architect was Mr. W. Swindon Barber, of Halifax. The greatest amount of outlay, however, has been incurred in the illustration and ornamentation of the apse, designed and executed by the firm of Powell, Bros., Leeds. This work involves a speciality, viz., in the painting of the chancel ceiling. It may be regarded, according to the artists, as trifold. First, and centrally, is a triplet window in stained glass, devoted to the subject of the Transfiguration; the Awakening of the three Disciples, and their wonder at the vision, is the moment chosen for delineation. The mural decorations which enframe the window are more especially dedicated to the illustion of the two verses of the "Te Deum," viz., "The glorious company of the apostles praise Thee"; "The goodly fellowship of the prophets praise Thee"; and beneath the cornice on either side are two friezes of twelve apostles and prophets in fresco, yet with this peculiarity, that generally, where practicable, the treatment is in oils, as more durable. The walls beneath are diapered in gold and colours upon the generally-prevailing vellum-tinted ground.

The roof of the chancel is circular, intended to embody one great central orb and various surrounding zones, within which the artists have depicted, emblematically, the great events of the six days of the Creation. Within the great inner central circle is Christ enthroned upon a rainbow, and imperially crowned in front of a solar glory; in his left hand the orb surmounted, as if prophetically, by a Latin cross. So also prophetically his hands and feet bear the stigmata of the crucifixion. His right hand, opened, is extended in the act of blessing,—"When thou openest thy hand they are filled with good."

Immediately beyond this circle are smaller zones of cloud, emblematic of the Spirit and Ether,—the latter filled with a number of attendant cherubim. Beyond these again the principal zone is continent of six orbs, each illustrative of the special work to each appropriate in the successive six days of Creation, beginning with the division of light from darkness, and ending with Adam and Eve and the newly-created animals. Between each such orb is a watching angel in the act of adoration for the work accomplished. This zone and its subordinate zones in various colours and gold are made to constitute one vast circular glory around the Christ,—whose glory "the heavens declare."

Drury Lane.—At a meeting of the Committee of the Proprietors of Drury Lane Theatre, held on the 9th inst., Mr. C. J. Phipps, F.S.A., was appointed Architect to the Company, in the place of Mr. Marsh Nelson, resigned.

THE HOLBORN TOWN-HALL AND PUBLIC OFFICES.

On Saturday, the 3rd of August, 1878, the Chairman of the Metropolitan Board of Works, Lieut.-Colonel Sir James M'Garel Hogg, bart., K.C.B., M.P., had a somewhat busy time of it. On that day he formally opened the last completed section of the new thoroughfare from Oxford-street to Shoreditch,—namely, from Bloomsbury-square to Farringdon-road, and that done he proceeded to lay the foundation-stone of the new Holborn Town-hall and Public Offices at the corner of Gray's-inn-road and what was then known as Liquorpond-street, but which is now called Clerkenwell-road.

The works have been vigorously pushed forward since that date, and are now so near completion as to admit of the inauguration of the building. The following description, with the accompanying illustrations, may serve to convey some notion of this the latest addition to the municipal halls of the metropolis.

The site on which the structure stands is a parallelogram, 120 ft. long by 100 ft. wide, and the buildings are disposed upon it forming three sides of a quadrangle, a clock tower marking the angle at the corner of Gray's-inn-road and Clerkenwell-road. The space unbuilt upon forms the stone-yard for the district; this also extends under the greater portion of the large hall, the floor of which is fireproof, composed of iron skewback girders resting upon two rows of iron columns, the spaces filled in with brick arches, above which comes the wood flooring upon joists with pitch-pine battens.

A large archway for driving into the uncovered portion of the stoneyard pierces the centre of the Clerkenwell-road frontage, passing under the public hall. In this courtyard are placed the mortuary, post-mortem room, and disinfecting-room, supplying a great want in the neighbourhood.

The basement occupies but a limited area of the site, only extending under the official portion of the Gray's-inn-road block. It comprises a strong-room, space for the heating-apparatus, supplied by Messrs. J. & F. May, of High Holborn, and the necessary coal-cellars and store-rooms.

The principal entrances to the building are in the Gray's-inn-road front. The public office, approached by a loggia at the southern end of the façade, is exclusively devoted to business purposes, and is in immediate communication with the offices of the clerk, surveyor, and the medical officer of health. The entrance to the public hall and the board-room is in the tower, and gives direct access to a circular-hall, 18 ft. in diameter, on the right of which is the inner-hall, containing the principal staircase, a corridor leading therefrom to the rooms occupied by the officers of the Board. This staircase is constructed entirely in stone, each flight 6 ft wide, with stone strings and balusters of Doulton ware, with newels to correspond, being the first instance in which this material has been used for such a purpose; the handrail is of American walnut to match the principal doors.

The floors of these halls and corridor are in mosaic, specially designed for the building, and are executed by Messrs. Oppenheimer, of Berners-street, who also provide the panel on the landing of the first-floor. From this landing, 20 ft. long and 10 ft. wide, the public-hall is entered by a door on the right of the platform, a similar door on the left opening into the octagonal anteroom for the *artistes*. Directly opposite, at the eastern end of the hall, is a gallery, containing over 200 seats, approached by a separate stone staircase from an entrance in the Clerkenwell-road, and which is continued up so as to give access to the interior of the roof.

The dimensions of the public-hall are 96 ft. long, 45 ft. wide, and 32 ft. high, and afford space for 800 seats, exclusive of those in the gallery. The hall is lighted on each side by a range of seven windows, divided in the interior by piers with foliated caps, above which is carried the cornice; an attic story, with circular windows giving light and ventilation to the upper portion of the hall, comes beneath the great cove of the ceiling, supported by caryatid figures. Twelve panels in this cove represent the months of the year, and the three principal panels of the ceiling are decorated with figure subjects.

An organ, with suitably-designed case, built by Messrs. Gray & Davison, is provided on the platform facing the gallery.

On this floor is also placed, to the right of the principal staircase, the Board-room, with its waiting and retiring rooms. This apartment is 50 ft. long by 30 ft. wide, and 20 ft. high, and is lighted by three large windows looking into the Gray's-inn-road, and two windows opposite, overlooking the stone-yard.

The decorations for the whole of this floor were executed in carton pierre, by Mr. Bockbinder, of Thornhill-road, Barnsbury, and the figure and colour decorations were carried out by Mr. John Crossley, of Newark, Notts. It may be added that the building was dried by the process of Messrs. Dreyfus & Co., which enabled the painters and decorators to proceed at once.

A second-floor in the portion of the building fronting Gray's-inn-road provides ample accommodation for the housekeeper. A tank-room and clock-room occupy successive stages in the tower, and finally the bell-stage is reached, with five bells chiming from a peal of eight.

The clock, with four illuminated dials, and the bells, were manufactured by Messrs. Gillett, Bland, & Co., of Croydon. Of this part of the works we give a separate description.

Fire-mains with appliances rise at each end of the large hall, and command an immediate supply of water at the different floor-levels.

Pitch-pine, unstained but varnished, and American walnut, are the woods employed throughout for the finishings, the espagnolette bolts and other window fittings being in bronze.

In its external architecture this building may be described as being in the style of the Renaissance of the reign of Louis XIII., freely treated. The materials used are the best Fareham bricks and Portland stone, polished grey Aberdeen granite in monoliths being used in the three-light windows in the Gray's-inn-road front, and the principal entrance doorway in the tower is entirely constructed of the same material. The whole of the polished granite was supplied by Messrs. A. & F. Manuelle.

The composition of the design is simple, and the principal lines of strings, plinths, balustrades, and cornices, are carried through each front. Considerable effect is gained by recessing the windows in receding planes, allowed by the thickness of the walls. At the angle the clock-tower rises to a height of 120 ft., terminated by a gilded vane, 9 ft. high.

Advantage has been taken of the rounded corner at the junction of the streets to reproduce this feature in the design of the tower, the angles of which are rounded until they rise above the main cornice, with the crowning balustrade. It then becomes square on plan, with a boldly-projecting feature on each face, in two stages, the first with perforated panels in stonework, between low pilasters, giving light to the tank-room, the upper containing the clock-dials, 6 ft. 6 in. in diameter, enclosed in a square panel enriched by carving. Each face, after an ornamental band of carving, is terminated by a deep cornice and pediment, surmounted by a stone balustrade with vases at the angles. From this point the form is changed to an octagon, leaving a clear passage-way round on the exterior. Above this, open panels, with ironwork screens, enclose the bells, and an octagonal dome with moulded ribs finishes the tower.

The carving has been executed by Messrs. Farmer & Brindley, of the Westminster Bridge-road.

Mr. Sax supplied the electric bells, Messrs. W. T. Allen & Co. the ornamental ironwork, and Messrs. Bellman & Ivey the scagliola columns in the entrance-hall. Messrs. F. Goddard & Co. made the double dinner-lift; Messrs. Stevens & Sons, of the Southwark Bridge-road, executed the gas-fittings; and Messrs. Shand, Mason, & Co. the mains and appliances for securing the building against fire.

The whole of the works were executed from the designs and under the superintendence of Messrs. Isaacs & Florence, architects, of 3, Verulam-buildings, Gray's-inn, Mr. Isaacs being the surveyor to the Board of Works for the Holborn District, at whose instance and cost the building has been erected. The general contract was taken by Messrs. Browne & Robinson, of Worship-street, Finsbury. The total outlay involved in the acquisition of the site and the erection of the building is 50,000*l*. Mr. Farrow was the architects' clerk of the works, and Mr. Cornish represented the builders.

The Hall is to be formally inaugurated on the 18th inst., when the Lord Mayor and Sheriffs, the Chairman of the Metropolitan Board of Works, and a great many of the leaders of municipal life in London, are expected to be present.

THE CLOCK, CHIMES, AND BELLS, HOLBORN TOWN-HALL.

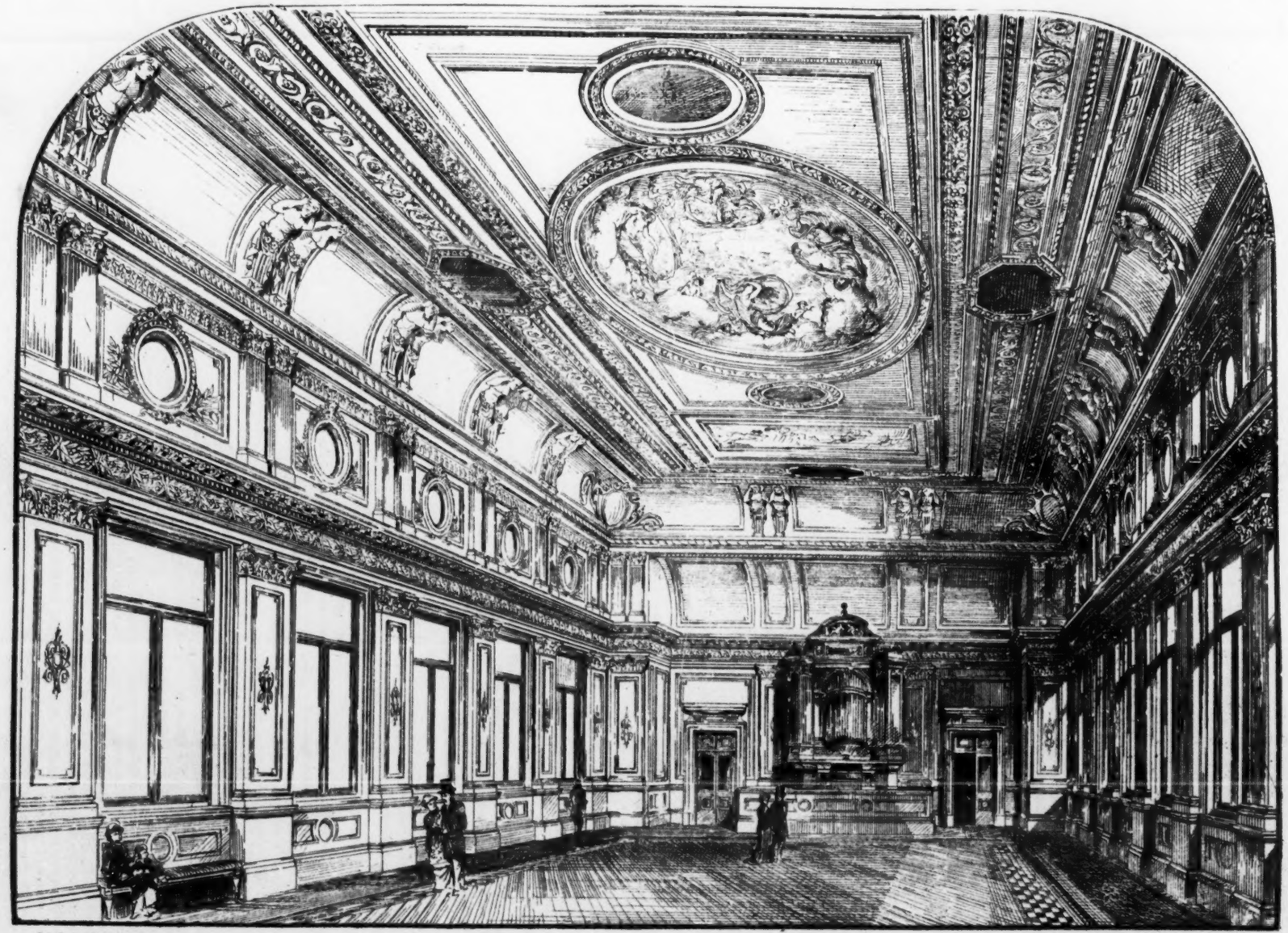
The new clock, chimes, and bells have been manufactured and fixed up, as already mentioned, by Messrs. Gillett, Bland, & Co., of Croydon. The clock strikes the hours upon a bell of 20 cwt., and chimes the four quarters on four other bells (weighing altogether about 3 tons), the same as at the Westminster Palace, the time being shown upon four 6-ft. 6-in. skeleton iron dials, glazed with opal glass, and illuminated at night. There are engraved and silvered dials on the clock showing minutes and seconds, for the purpose of adjusting the outer hands, and taking observations. A compensation pendulum is used, made of zinc and iron tubes, and beating 1½ second of time, with a cast-iron cylindrical bob at the bottom weighing 2½ cwt. The motive power is given to the clock by weights, weighing about 14 cwt., suspended from the three barrels by steel lines, which are carried over pulleys at the top of the tower and fall to the ground, a distance of 70 ft. The escapement is what is technically called a double-three-legged "gravity," which is superior to other kinds for perfect time-keeping. The chime part of the clock is constructed on Gillett & Bland's improved principle, with movable steel pins, so that the chimes can be adjusted to the greatest nicety, or changed at any time if required. The clock is guaranteed not to vary more than five seconds per week, the first blow of the hour, and first, second, and third quarters, being the exact second of mean time. There is also fitted to the clock a self-acting gas apparatus, to turn the gas on and down automatically, and to suit all seasons of the year.

The clock is fixed upon cast-iron ornamental brackets built into the tower, and the pendulum is also suspended from a massive cast-iron bracket, fixed to a stone corbel in the wall. The clock is made on the horizontal plan, and contains all the manufacturers' recent improvements, including the new winding gear, of which they were the inventors, one advantage being that no damage can be done to the clock by the carelessness of the person who winds it up, as the handle may be turned either way, and at any speed, and the weights can be lowered as well as raised without interfering in the slightest degree with the action of the clock.

The bells, which have been cast and tuned in the manufacturers' own church-bell foundry, at Croydon, are of the following notes,—hour-bell, E flat, and the quarter-bells F, B flat, C, and D.

The oak framing in which the bells are hung was also constructed and erected by the same firm. The entire cost is about 800*l*.

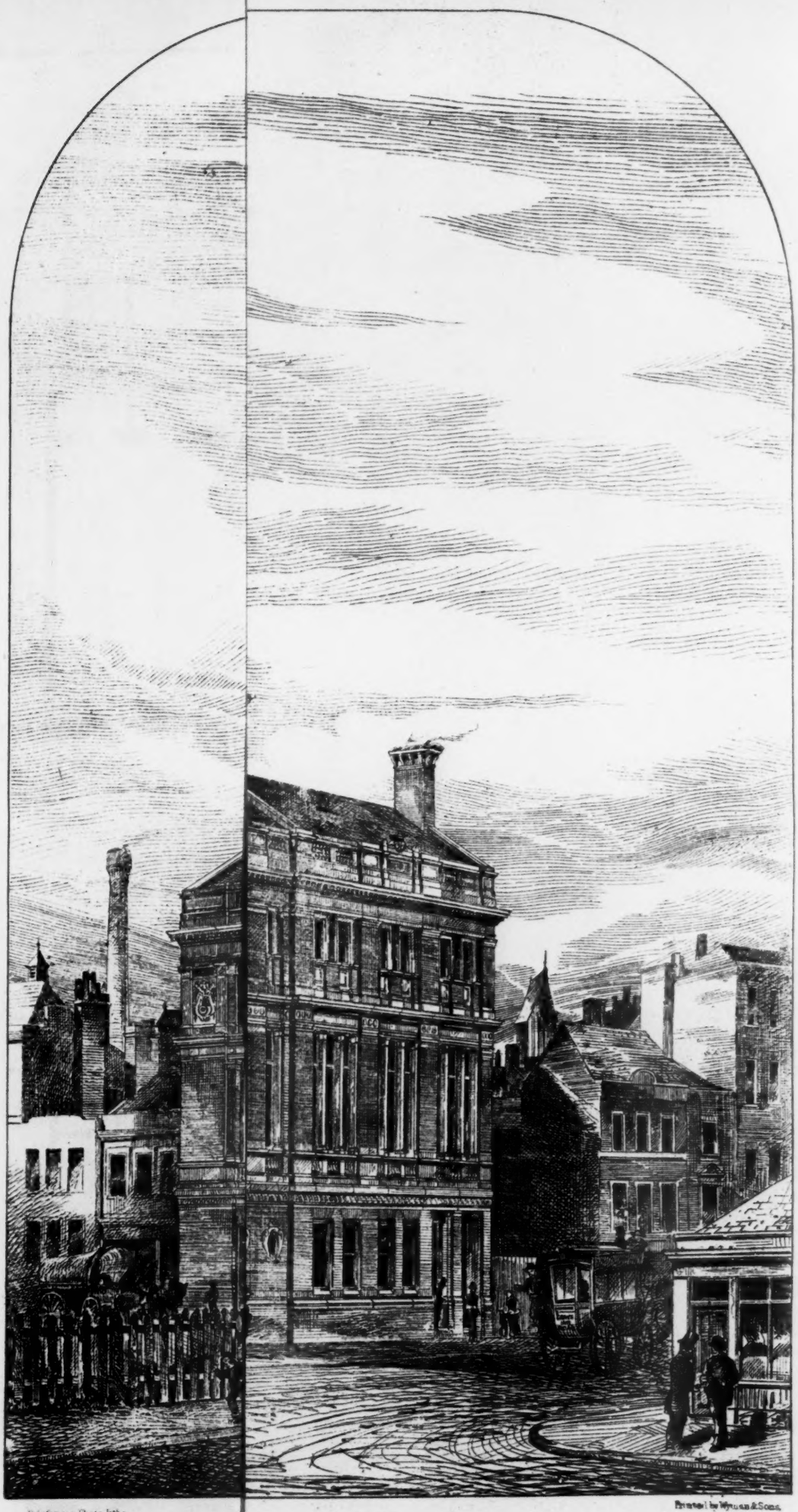
New Station at Waterloo, near Liverpool.—The Lancashire and Yorkshire Railway Company have at last undertaken (says the *Bootle Times*) the preliminary steps towards the erection of the sorely-needed new railway-station at Waterloo, near Liverpool. It will be situated to the south-east of the present station, the line of rails being diverted some 40 yards to the east for that purpose. The South-road crossing is to be raised about 4 ft., and the present lines, being lowered 13 ft., will pass at this point under a handsome bridge, to be erected in place of the existing level crossing. In the centre of this bridge there will be a broad flight of steps leading to the new station below, which is to be in the centre of the rails, thus forming on either hand an arrival and departure platform, with the waiting-rooms, booking-offices, and general station buildings between the two. The station itself is to be of white and red brick, in the Gothic style of architecture. The platform length will be about 250 yards, with a width of 60 ft. By this arrangement of station and platforms no crossing of the line is necessary, and the waiting-rooms and other accommodation are equally available for departing or arriving passengers. The present station is to be incorporated with a large new goods station, which is to be formed with a frontage of about 400 yards to the Brighton-road. The contractor is Mr. W. H. Smith, of Bankhall.



P. Lafargue, Photo-litho.

Printed by Wyman & Sons.

HOLBORN TOWN HALL: INTERIOR VIEW.



P. Lafargue Photo Litho.

Printed by Wyman & Sons.

P. Lafargue, Photo-litho.

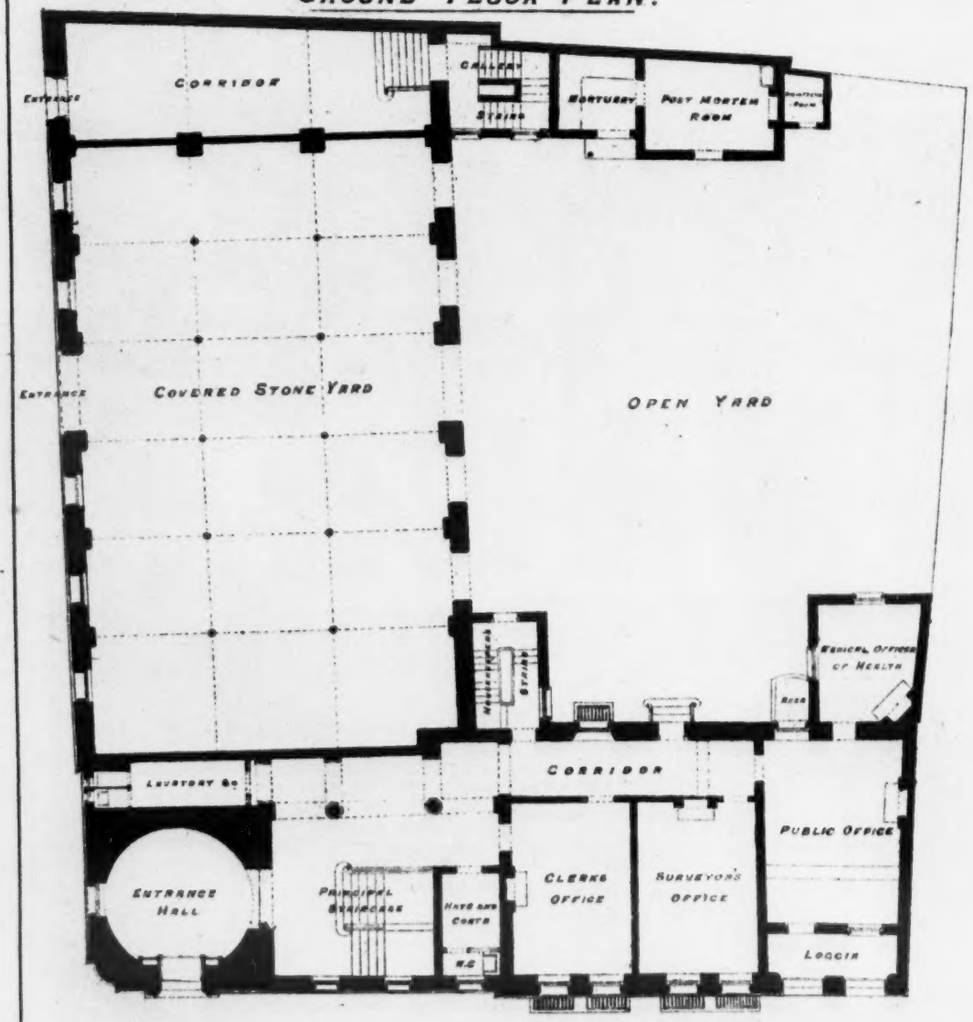
Printed by Wyman & Sons.

HOLBORN TOWN HALL: INTERIOR VIEW.

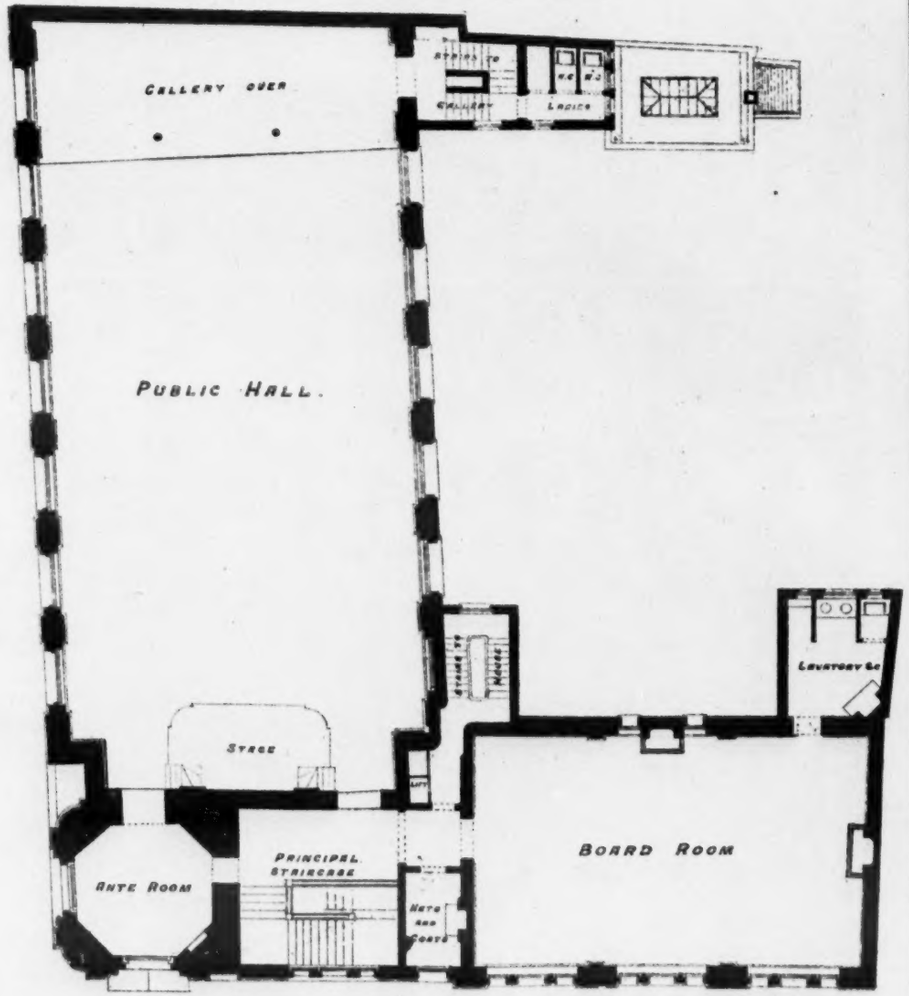
THE HOLBORN TOWN HALL AND PUBLIC OFFICES.—Messrs. Isaacs & Florence, Architects.

HOLBORN TOWN HALL AND PUBLIC OFFICES

GROUND FLOOR PLAN.



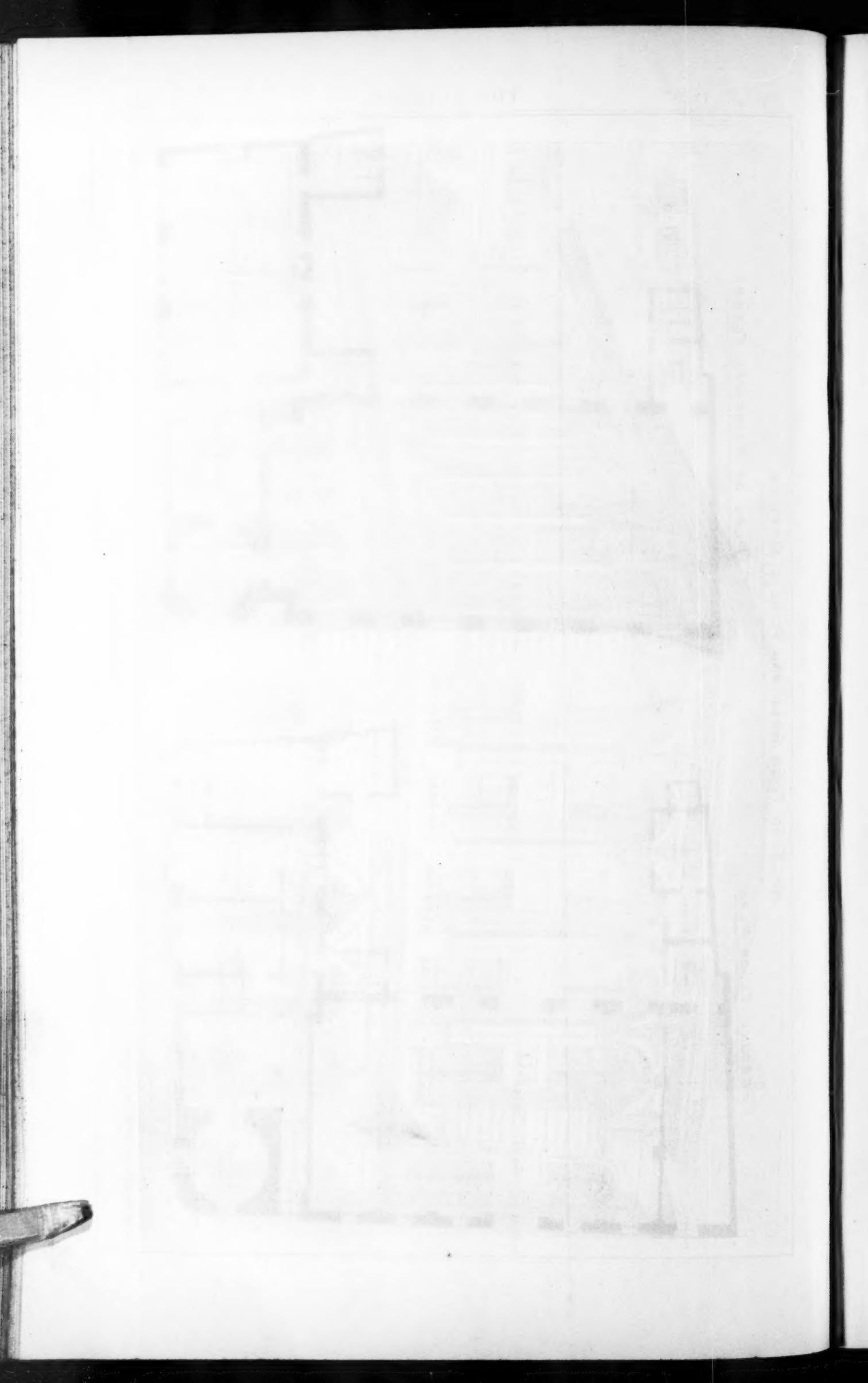
PLAN OF PRINCIPAL FLOOR.

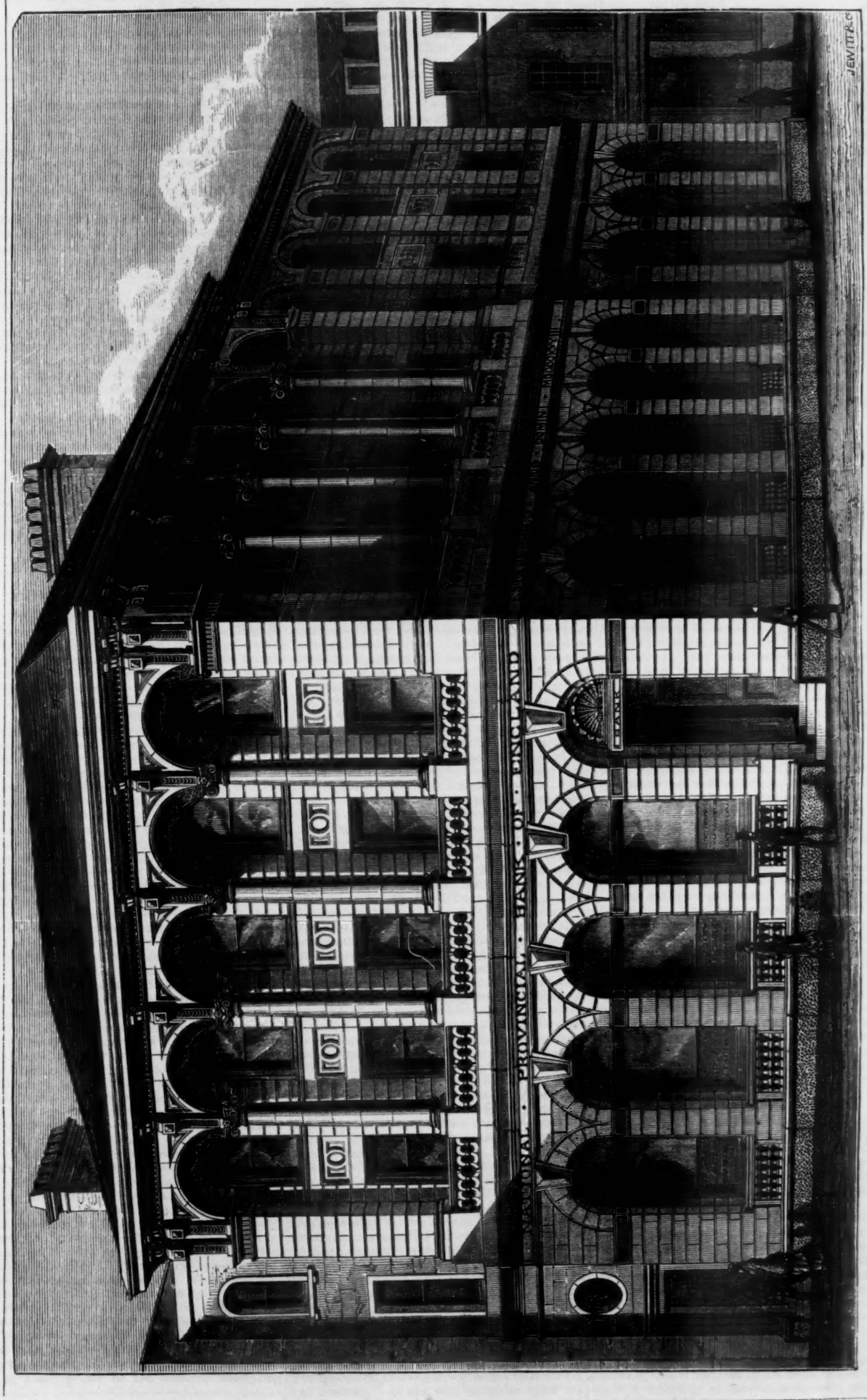


SCALE OF 10 5 0 10 20 30 40 50 FEET.

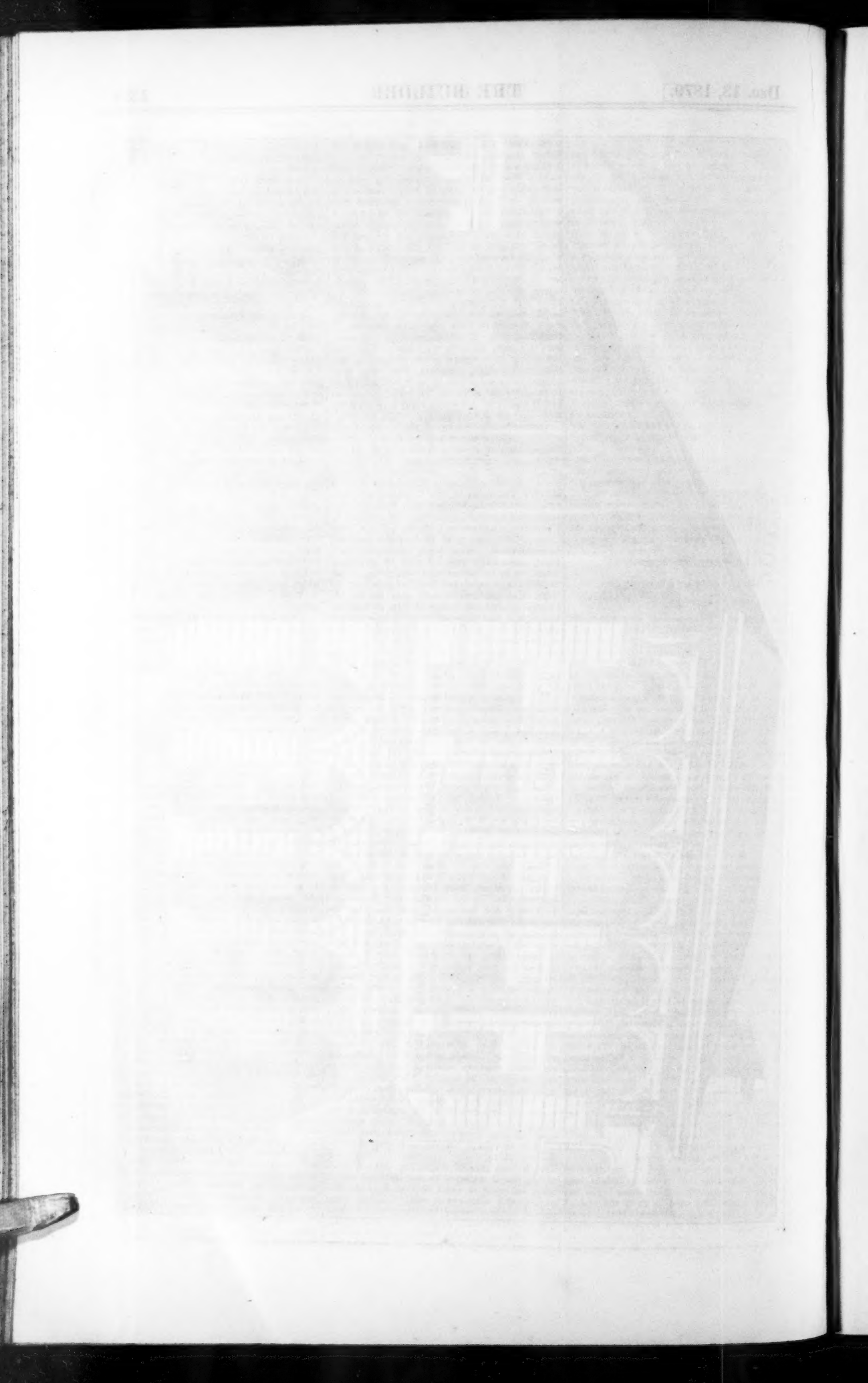
F. Lafargue Photo-lith.

Printed by Wyman & Sons.





THE NATIONAL PROVINCIAL BANK OF ENGLAND, SUNDERLAND.—MR. JOHN GIBSON, ARCHITECT.



THE NATIONAL PROVINCIAL BANK OF ENGLAND, SUNDERLAND.

THE National Provincial Bank of England has increased the number of handsome buildings in the flourishing borough of Sunderland, by the addition of a piece of architecture, designed by Mr. John Gibson, architect, of Westminster, under whose superintendence the works have been carried out by Messrs. Shaftoe & Barry, of York. The building alluded to is for the purposes of the National Provincial Bank's Sunderland Branch of their business, and occupies a commanding position at the corner of the High-street, leading from the railway to the docks.

The two fronts are constructed of Prudham stone, and the entrance is at the angle. The banking-room, which is 40 ft. square, is very lofty, and the walls and ceilings are divided into bays, and handsomely panelled and moulded. The fittings of the room are finished in mahogany, and the space for the public is paved with encaustic tiles. The heating is effected by hot-water pipes, the apparatus for which is in the basement. The entrance to the banking-room is through a panelled mahogany lobby.

The manager's room and the strong-rooms are situate at the rear of the banking-room, and there are additional safe-rooms arranged in the basement.

Refreshment-rooms, lavatory, and other conveniences for the clerks are provided in the basement, and are fitted with the newest appliances.

The upper stories of the building are arranged for the accommodation of the resident officers and servants of the bank, entrances to which are given from the two streets forming the angle of the building.

THE PRESIDENT'S ADDRESS.*

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE numerous volumes that now adorn our shelves have been obtained from the liberality of members and of authors, foreign as well as native, among whom no one is to be remembered more thankfully than the late Sir William Tite. He devoted a large sum of money to remedy the want, which existed to about 1866, of the more expensive publications on architecture. Thanks to him, and to the opportunities which the Council later possessed through donations of money,—enabling them to purchase rare books such as can scarcely be expected to be presented by individual members,—only a few standard works of reference are now required to place this library, as it should be, among the best of its class. But permit me, whilst remembering the more expensive works, to add a few words in favour of the smaller and perhaps ephemeral publications, even pamphlets, referring to architecture,—that class often deemed rubbish, if such a term can be applied to any production which, considered useful in its hour, is liable to be thrown aside and destroyed, but which, once preserved in our library, may some day give the historian a useful clue to an invention, a date, or an incident. These numerous works, already contained in many volumes, take up little room, and to some they are not the least esteemed portion of the library.

The "Dictionary of Architecture" must by this time be well known as a work of reference, and for its great scope of subject matter, embracing all that relates to architecture as an art and a science. It is on the high road to completion; the letter O is published, and the letter P greatly advanced. It has been noticed to me lately that in this work we shall have a nearly complete collection of the professional lives of deceased British architects. This fact alone is a great result when it is remembered to our disadvantage, that many States, and even many towns in Italy and France, have published the lives of their local artists, and that Spain has produced valuable volumes on the architects of its country. No other work has yet appeared in England which revises and continues, like the "Dictionary of Architecture," the interesting contributions of Virtue and Horace Walpole in the last century.

Perhaps I may be permitted to hint that the valuable collection of technical books and illustrations contained within these walls has not been sufficiently used or fully appreciated by the majority of our members. If that be so, it is possibly due to the hitherto uninviting character of this room, owing partly to the want of light, and partly to the absence of those accessories which, in the best clubs and in the British Museum reading-room, render modern libraries a most delightful resort. Indeed, this room in which we are now seated used, with its bare table and its rows of empty benches, to present daily an appearance of the most woe-begone condition. In future it will be a general reading-room; some of the benches will be removed to a place of storage, and the rest will be so arranged as to leave the centre of the room free for readers. As our meetings never exceed fifteen in the course of the session, the task of removing and re-arranging the benches, chairs, and tables will be slight, while the advantage of possessing every day in the session accommodation for members who may wish to meet, or read, or write, cannot be disputed. I trust that some of our non-metropolitan members will take an early opportunity of proving the utility of a central place of meeting, and that metropolitan members may soon have opportunities of conversing, here, with colleagues from different parts of the country, on the practicability of measures long in contemplation, and now under discussion by the Council.

I allude to the relation of the provincial and colonial societies of our profession to this Institute, placed as it is in the capital city of the Empire, and being the chartered body of British architects throughout the world. As you know, something has already been done towards eliciting the views of the different Architectural Societies in England and Scotland, but the results have not encouraged the Council to formulate a definite scheme by which a more intimate connexion than at present exists may be maintained. What minor negotiations have taken place have been effected by correspondence,—a by no means satisfactory way of discussing complicated and delicate questions. I think that personal contact may enable the Council to learn the wishes of local professional bodies, and that personal influence may tend to assimilate their local rules and interests to those of the chartered body. In view of future more lasting arrangements, I would venture to suggest that each of the larger societies might be asked to delegate one of their number, and that smaller societies, situated in neighbouring localities, might appoint a representative of two or more societies. These gentlemen might, for the purpose of discussing the possibility of closer union, take their places at our council meetings on the same footing as past presidents and past vice-presidents now sit at our board. We could, at the same time, revert to the old system, and appoint in different provincial centres one of our Fellows as a local honorary secretary or representative of the Institute. Indeed, we have already done so in one corner of this vast empire, having appointed my friend Mr. W. W. Wardell, Fellow, our representative at Sydney, in Australia; while at Melbourne Mr. W. Loyd Tayler, Associate, will act in a similar capacity, though subordinate to Mr. Wardell, who for more than twenty years was head of the Public Works Department there. These gentlemen have accepted the appointments in view of the International Exhibitions at Sydney and Melbourne, held this year and the next. But the fact may be regarded as the renewal of a system which should be widely extended. I see no reason why, if our members be only willing, we should not have honorary secretaries, duly appointed or elected, in the different presidencies of India, in New Zealand, in the Dominion of Canada, and in other places, just as we now have in Victoria and New South Wales. The advantage of possessing such representatives, men whose career is not only known, but who themselves are known to the council and their colleagues in this country,—whose advice, in cases where British architects resident abroad are candidates for admission to our ranks, can be solicited with confidence,—must be obvious to all. I think, therefore, that the next step in the matter of our relation to the numerous societies of our profession, in the British Isles and abroad, should be the appointment of local honorary secretaries, and this I propose to submit for the consideration of the Council at an early opportunity. Much has already been mooted respecting the affiliation of provincial societies to the Institute, and it must be borne in mind that an intimate connexion with ourselves is really possible in the case of societies whose by-laws are not framed "in opposition to the general scope, true intent, and meaning" of the charter under which we are incorporated. I know one society,—the Glasgow Institute of Architects,—whose members are governed by rules, and who accept obligations, almost identical with our own. The Glasgow part of the profession is very worthily represented at our Council, and, considering the distance from London, Mr. Honeyman may be called a regular attendant. Like him, most of the members of the Glasgow Institute are Fellows of our body. Suppose the professional men of Glasgow were to make a little verbal alteration for the general good and as a wholesome example. Suppose, instead of being called the Glasgow Institute of Architects, they were asked to be known as the Glasgow section of the Royal Institute of British Architects. I cannot believe that our colleagues of Glasgow would think such an alteration derogatory to their position, or that in making the suggestion other than the most friendly intentions towards them would be manifested.

The necessity for union, however, will become apparent as the time approaches for the execution of our by-law (*No.* 14), which, if it is to have any practical effect at all, will compel every candidate for membership to pass the test of an examination. The terms of that by-law, which was agreed to in 1877, are that "All gentlemen in the study or practice of civil architecture, before presenting themselves for election as Associates, shall, after May, 1882, be required to pass an examination before their election, according to a standard to be fixed from time to time by the Council." The subject is now under inquiry at the hands of a special committee, who will in due course present a report to the Council. Meanwhile, perhaps I may, as the chairman of that committee and as your president, refer to some of the difficulties which obstruct our path, and arguing from what has been successfully done by other professional societies, in pursuit of the results to which we aspire, lay before you a rough sketch of what I think is not altogether impracticable.

In the first place, even if it were possible, it is not desirable to make our profession a close one. The Church, Law, and Medicine are close professions; they are hedged in by barriers which have grown up from time to time, and which may be regarded as hereditarily and historically pertaining to those three professions. They have to do with the spiritual, the moral, and the corporeal health of the community at large. The welfare, spiritual and moral, of men is not thought to be affected by architectural successes or failures, although buildings ignorantly and unscientifically put together are known to physically impair human life. As it has been laid down in this room by one of her Her Majesty's counsel,—ruination by bad advice, and killing instead of curing, are rather more serious matters than the difference between good and bad architecture. When, however, the same eminent Counsel made that remark, he had but just challenged us with the question:—"What real measures do you take, collectively or individually, to secure that men calling themselves architects should know anything of architecture beyond what they pick up in the offices where they sit for a time, copying drawings and specifications?" That was at the end of 1874, and much beneficial advance has been made in the Institute since then. Though even at the present moment we could not give a satisfactory answer to the question, we are at least able to say not only that the necessity for making a practical response is felt to be more and more necessary, but that our improved position renders it more easy to do so now than it would have been five years ago. My feeling is that every candidate for associate-ship should be required to obtain a certificate from examiners appointed by the Institute, or that he should hold some qualification from a University, from the Royal Academy, the Science and Art Schools, or from other educational bodies, which qualification should serve to modify the terms of his examination. That once established, it would be easy to regulate a transfer from the class of Associates to that of Fellows. Whether such a certificate should be given to all those who before May, 1882, have been duly elected Associates is a question for consideration, though it is one that can be decided by reference to similar precedents in other societies, particularly to that of the Dentists, to whom I shall allude presently. It would be idle to disregard the probability that, for the first few years of a *régime* by which the test of an examination was made a condition of membership, there would be a falling-off in the number of new Associates,

* By Mr. John Whichcord, F.S.A. See p. 1339, *ante*.

and during the last session forty-three have been elected. This session I anticipate a larger number; and during the period, anterior to the proposed compulsory examination in May, 1883, there would be, comparatively, a very large accession of Associates. Then would come the expected diminution of income from our subscriptions, and the question will arise:—Are we prepared to face such an eventuality? I, personally, think we are. Indeed, I think we are bound to face the difficulties of this matter,—bound to try our strength. For, if you look around, you will find bodies of men far less favoured than ourselves, devoting considerable time and labour, and incurring a large expenditure, in pursuit of this very object.

Take the Institute of Accountants, quite a young body of professional men, who have lately introduced a Bill into Parliament to incorporate themselves with other kindred societies for the purpose of regulating and controlling the profession of accountant under the direct sanction of the Legislature. The Bill was read a second time in the House of Lords, and referred to a Select Committee. There was every prospect of the Bill passing, when at the last moment Lord Redesdale, the chairman of committees, suggested that in his opinion the object of the Bill would be attained by means of a royal charter, rather than by an Act of Parliament. The Council of the Institute of Accountants therefore presented a petition to the Privy Council, and were subsequently requested to orward a draft of their proposed charter. I need hardly add that the accountants propose under their charter to make examination a condition of membership. Under their rules and regulations, "Every articled clerk who has made application for his name to be entered as a student shall before his name is so entered undergo a preliminary examination in regard to his general education," but any articled clerk who has matriculated at one of the Universities, or who has passed the Oxford or Cambridge Local Examination, or the Examination of the College of Preceptors, is not required to pass the preliminary examination. Then again, the rule of the accountants is that every articled clerk who is a candidate for associateship must pass an examination, and if he fail he may present himself again for examination, provided he do so within a period of six months. I have no doubt, should the accountants get their charter, that they will afterwards apply for an Act of Parliament, and that they have both the spirit and the means to make the trial. Now, though we have had a royal charter for more than forty years, I do not perceive that we are as far advanced in this matter as the accountants.

But there is another society founded in 1848,—the Institute of Actuaries,—the members of which, though they do not possess a royal charter, submit to examination. That is to say, the Institute of Actuaries examines its own members. Candidates must be elected Associates before they are eligible to be examined; then, after passing three examinations, and obtaining a certificate of competency, an Associate of the Institute of Actuaries requests to be made a Fellow. This proceeding seems a very stringent one; but I am told that the Institute of Actuaries is a flourishing society, and that no one stands a chance of being known as a qualified actuary unless he be a Fellow of their Institute, a position of which the Fellows are justly proud.

Some of you, however, may think that it is now too late in the day for us to make examination a condition of membership; we are already too numerous. It would be impossible to force examination upon actual members; it would be unfair to compel candidates for admission to undergo a test that the majority of their colleagues have escaped. But do you know, gentlemen, that the dentists have lately faced this difficulty and overcome it? Last year, on the 22nd of July, an Act of Parliament was passed "to amend the Law relating to Dental Practitioners." It is now unlawful for any person to take or use the title of "dentist" or "dental practitioner" unless he is registered under the Dentists Act; and unless he is so registered he cannot recover in any court fees for any dental attendance or advice. A register is now kept, which contains (1) a list of all United Kingdom dentists registered under the Act, (2) a list of all colonial dentists registered under the Act, and (3) a list of such foreign dentists as are registered under the Act. The 18th clause of the Act refers to examinations, which are held by the medical authorities having power to grant surgical degrees; these examinations are made a test of the fitness of persons to practise dentistry or dental surgery. Now, as the chairman of the special committee engaged in collecting information necessary to guide our action in this matter of compulsory examination, I have learnt something about the working of the Dentists Act, not in so huge a place as London, but in Dublin. Our Fellow, Mr. Thomas Drew, who was recommended to you this year for a seat on the Council, has been good enough to study the working of the Dentists Act in the Irish capital. I shall betray no confidence if I quote from one of his letters to us. His words are:—

"I have observed that under the reasonable and undeterrent kind of examination carried on by the College of Surgeons of Ireland there has been no difficulty in bringing in, within one year, the great majority of a body of practitioners hitherto requiring no legal qualification, and consisting of men, many comparatively advanced in years and of long standing, to obtain the necessary qualification for registration. . . . . The course pursued seems to owe its success to the wise discretionary powers conceded to the Examiners, the reasonable elasticity and absence of hard and fast lines of formality with which they have exercised them. The examiners appear to have laid down no theoretic curriculum,—to have set no 'papers' which would require a candidate of mature years to return to the half-forgotten exercises of youth. They have taken the candidates, then and there, red-handed from their practice, and, by an encouraging *viva voce* communication with each, elicited to their satisfaction whether the candidate was fairly and intelligently acquainted with his profession. . . . . I have heard from some of the Examiners, —men of great experience as surgical examiners,—that they have passed their candidates with greater confidence in having ascertained the real value of their knowledge than by any examination by papers or otherwise in a set course. So far as I know, this is the first case in which a profession has been brought under the recognition of law by a happily hit-off combination of voluntary and compulsory examination. I cannot but believe that on some such lines it will yet be possible to bring architects within the pale of legal registration."

Having learnt so much, we asked Mr. Drew to place himself, on our behalf, in communication with some of the examiners of the Royal College of Surgeons of Ireland first appointed under the Dentists Act. He did so, and thanks to the kindness of Mr. R. Theodore Stack, F.R.C.S.I., one of the examiners resident in Dublin, he has been enabled to furnish us with a most clear and satisfactory statement respecting the character and extraordinary success of those examinations. It appears that for the first year after the passing of the Act all *bonâ fide* practising dentists were allowed to go upon the register, but since last August the only portal to that register has been by obtaining a certificate from some of the medical bodies. Up to the 1st of August, 1881, the examinations will be of a *sine curriculo* character, for the purpose of meeting the case of the established practitioner, from whom only two conditions are required. One is, that he has been five years in practice; the other, that he has conducted his practice reputably. The dental practitioners in Dublin have evinced great alacrity to present themselves for the *sine curriculo* examination, and I am assured that the majority of the rejected candidates were very young men.

Now it appears to me that the question which may divide the Institute is not whether there shall or shall not be introduced the test of compulsory examination, but rather, what shall be the character of such compulsory examination? Ought it to test the general education of a candidate, or should it be strictly professional in its details? The real difficulty lies in deciding upon the artistic capacity of a candidate. An idea doubtless prevails,—and it may have great sway,—that no board of examiners can possibly pronounce an opinion which shall be conclusive on the artistic powers of a candidate; or, to put it still more unfavourably, on taste partly natural and partly acquired. I will not here attempt to enlarge upon that quality which is known as good or bad taste,—as to whether taste is a divine gift, an hereditary acquisition, or merely the result of association and education. But I am prepared to maintain that both geometrical and free-hand drawing are essential requirements for an architect. He may not, in the full tide of business, have either the time or the inclination to make or finish drawings, but he should at any rate know how to do so, if only for the proper exercise of his judgment and the due instruction of his pupils and assistants. I am also prepared to maintain that an architect should be cognisant of the general principles of construction, and that it is possible to define what those principles are; and that he should be acquainted with the nature, qualities, and value of those building materials that are in constant use in the localities with which he is or has been familiar. The question whether a student who has learnt the rudiments of architecture in Dublin shall be compelled to come to London in order to pass an examination fitting him to be enrolled in the list of British architects is easily answered. Dublin has an old and a recognised Society of Architects. A student in Cork or Galway would repair to Dublin, where examiners duly qualified and duly appointed would be ready to examine him. In like manner, local examinations, under the control of our Council, aided by our honorary representatives, would, in different parts of the country, obviate difficulties and moderate abuses sometimes produced by over-wrought centralisation. Even in India and Australia similar opportunities might be offered to candidates for membership of this Institute; and the very difficulties of compulsory examination might thus help to bind heterogeneous offshoots from the parent stem in one solid and enduring corporation.

Though I have, perhaps, wearied you with details of this character, I feel that the subject is too important to allow me to apologise for having introduced it. True there are both at home and abroad hosts of things to which I ought to have fully alluded in this address. I might have told you of recent correspondence with our foreign members, whose letters in reply have frequently been accompanied with donations of valuable books and photographs; I might have reviewed the labours of our member, Dr. Schliemann, among the ruins of Troy and the heroic tombs, or the recent festival at at Pompeii to commemorate the eighteenth centenary of its destruction. At home, the probable completion of St. Paul's, and the improvements effected around the cathedral; the projected thoroughfares in the City connected with the works of the Inner Circle Railway; the relics of old London day by day disappearing; the admirable address of the accomplished President of the Royal Academy at their last banquet; the new Offices and Courts of Justice, a portion of which is now occupied; the new buildings in the Temple; the Natural History Museum at South Kensington; the undoubted progress visible in the architecture of country residences, and even of suburban villas,—all these might have afforded material for chapters of comment or praise. If I do not devote an exclusive paragraph to sanitary matters it is not because I ignore the growing popularity of the science. It is only natural that architects should be credited with much of the acknowledged error which is due partly to general ignorance of the subject. But if the public are now on the alert it is because engineers and architects—notably one of our own Past Vice-presidents—have for long years aroused attention to existing evils while prosecuting a systematic inquiry into the methods of sanitary reform; and your President and Council are keenly alive to the value of such independent professional research in a branch of science now somewhat involved by the speculative genius of numerous patentees. With regard to another subject discussed here during the last session, I think, or at least I hope, that all London will soon have reason to thank Parliament for a recent Act which has amended a part of the Artisans and Labourers' Dwellings Act, and removed the difficulty experienced by the Metropolitan Board of Works in carrying out the provisions of that Act. You will remember that the original Act of 1875 compelled the promoters of an improvement scheme to provide for the accommodation on the same area of all those persons of the working class inhabiting that area and displaced by that improvement scheme. Thereby, among all the expropriated inhabitants, the working class appeared to be the only privileged class. The amended Act provides that, where the confirming authority is satisfied that equally convenient accommodation for the working class displaced can be provided in the vicinity, and that the required accommodation has been or is about to be provided, an improvement scheme may be forthwith executed. The authorities can, under the amended Act, use land belonging to them for the purpose of providing accommodation for those of the working class displaced by a scheme of improvement, or they may purchase land elsewhere. The amended Act also contains provisions for assessing, in the case of future schemes, the compensation payable for premises within an unhealthy area. These amendments to the Act of 1875 are satisfactory proofs that the Legislature have recognised the difficulties which impeded the action of the Metropolitan Board of Works in the clearing of contaminated neighbourhoods.

I have but a few more words to say, and they relate to myself. I have to thank you, gentlemen, for having placed me in this chair,—a position to the attainment of which nothing in my career has pointed or induced me to expect. But now that I am here, I desire to be proved worthy of being not only a leader, but your leader. I cannot hope to preside over a session as brilliant as that you have just enjoyed under the auspices of my immediate predecessor; you must accept for the time being the services of a practical president. Four years hence we shall enter upon the fiftieth year of our foundation; meanwhile, there is time to establish the principle of educational fitness and assert the privilege of a liberal profession. Should I be fortunate enough to enjoy the confidence of the Institute during the usual period of presidential office, I hope to show that the close union of British Architects throughout the world, facilitated by the accepted test of a compulsory examination, is both a possible necessity and a probable fact.

PROFESSIONAL TOPICS

AT THE ARCHITECTURAL ASSOCIATION'S CONVERSAZIONE.

THE annual *conversazione* of the Architectural Association was held on the evening of Friday, the 5th inst., and was well attended. The only thing which marred the complete success of the gathering was the persistent and disagreeably rapid flickering of the whole of the gas-burners in the meeting-room of the Institute, which commenced just as the formal part of the proceedings was about to begin, rendering it very difficult to take notes of the speeches. Towards nine o'clock the president, Mr. S. Flint-Clarkson, took the chair, and proceeded to present the prizes as follows:—The Association Silver Medal, together with the sum of 5*l.* 5s., offered for the best design for an hotel in a country town, to Mr. W. H. Moore (motto "Seymar"). An extra prize of 3*l.* 3s. was, in the same competition, given by Mr. H. L. Florence, the late president, to Mr. Frederick Hemings ("The Medal"), who was honourably mentioned by the judges for the originality and skill displayed in his elevations. Five other designs were submitted. For the Architectural Union Company's prizes for measured drawings, there were only two competitors, and the judges did not consider that either of the sets of drawings sent in merited the first prize (5*l.*). They considered, however, that very great skill and industry had been manifested by one of the competitors (Mr. Leonard Stokes, "Audax"), and they therefore awarded him the second prize (2*l.* 10s.) for his drawings of the choir of Pershore Abbey. For the Essay prize (3*l.* 3s.) only two essays were sent in, and neither of them fulfilled all the conditions required by the judges, who, however, recommended that one third of the prize be awarded to Mr. W. J. Burrows ("There is no limit"). The Class of Design Prize (3*l.* 3s.) for the best series of sketches submitted in the class during the past session, was awarded to Mr. John Bilson, who was also, as is hereafter stated, the recipient of the first prize in the Class of Construction. The President spoke of Mr. Bilston as one of the most promising and hard-working members of the Association. The second prize (2*l.* 2s.) in the Class of Design was carried off by Mr. T. H. Smith, and honourable mention was made of the work of Mr. A. Bridges and Mr. H. H. McConnal, a member of the Birmingham branch of the Association. In the Elementary Class of Design, the first prize (2*l.* 2s.) was won by Mr. J. H. Curry, for the best series of studies submitted during the session. The second prize was taken by Mr. C. C. Wilson, and honourable mention was made of the work of Mr. A. S. Gover. The Colour Decoration Class prize (3*l.* 3s.) for the best series of sketches made during the session was awarded to Mr. L. A. Shuffrey. The first prize in the Class of Construction (2*l.* 12s. 6d.) was awarded to Mr. John Bilson, for the best series of papers submitted at the meetings of the Class. The second prize (1*l.* 11s. 6d.) was obtained by Mr. A. T. Ellison, and honourable mention was made of the papers submitted by Mr. D. R. McBlain.

The President then announced that he had received a number of letters from various friends of the Association, regretting their inability to be present. Amongst them were letters from Mr. E. M. Barry, Mr. Waterhouse, Mr. John Gibson, and many others, including Mr. George Godwin, who wrote:—

"No one takes more interest in the progress of the Association than I do; no one is more gratified in hearing of its success. At one period of its existence, but for the interference of Professor Kerr and myself, my impression is that it would have collapsed. You may easily suppose, then, that I view with pleasure its present admittedly effective condition, and I cordially wish it increased prosperity. I have a few educational works which would probably be more useful at the Association than on my shelves,—say twenty or thirty volumes,—and I will, before long, take your opinion on the subject." *

The President then delivered a short address, in which, after a few words of welcome to the assembled guests, he went on to say,—How many or how few of the qualities found in good old buildings must re-appear in a modern work in order that it may become a good work of architecture? A careful answer would, of course, add to the mass of explicitness already in the world, but would be curious rather than useful. At any rate, a simpler course is possible,—for there is one thing which must appear in every work of architecture, although a good number of others may be absent. It must be evident that a man has been master of the work,—not mastered by what he had to do; that he was able, more or less perfectly, to do what he wished; and that he sought and found pleasure in those qualities which educated men in all ages have agreed to admire. From this starting-point an onward course leads to the grandest successes which human wit and will have wrought in building,—where the greatest powers have found full expression,—and the world has therefore felt effects similar to those produced by the most beautiful, the grandest, the most majestic scenes in nature. When some admirable work has been defined as fitted to its site and purpose as a whole and in every detail, of good materials skilfully put together, likely to endure for generations, each part good in itself and especially good in relation to the rest, and as having an expression in harmony with the purpose of the buildings,—that purpose not without a distinction of its own,—when every excellence has been found in some measure, and pointed out, it is clear that little further except superlatives will be wanted for the most perfect work which was ever designed, and, in consequence of the pleasure it gave to its creator, gained the power of giving pleasure for ever to all the world. Something very different from this would, however, be required in defining the character of the larger number of the buildings erected in any civilised country. Rough serviceableness would, indeed, be too lavish a phrase in England,—where, as in imperfectly settled countries generally, a handsome majority of the people are well content to pass their days sheltered by ugly screens and coverings which are neither wind nor weather tight, and will fall to pieces in two or three generations. Real serviceableness itself, though by no means unimportant, becomes a small matter in our eyes when a good deal more seems easy of attainment. Ignorance of the alphabet is a kind of wonder, and the correct repetition of the alphabet not thought a great achievement when finished eloquence has filled the air and stirred the blood by the heat of the light-giving rays. The habitual contemplation of what is really excellent makes mediocrity, and everything which falls short of higher excellence, sink into its proper place,—almost out of sight. Sometimes the fine ease of thorough mastery actually beguiles a spectator into the belief that ease implies absence of effort, and he tries his 'prentice hand, and lets everybody see the woful contrast between hope and act. A lover of commonplace, or of mild jesting, might state his conviction that it is necessary to be always beginning at the beginning, and learning, again and again, in each generation by sad experience, what can be taught in a much less unpleasant way to the performer and to the world. He might add that the man who burdens the earth with an ugly, dull, or commonplace building can sometimes forgive himself,—sometimes succeed in deprecating his own thorough self-condemnation,—and sometimes be content to groan as he gives way to his fate; but the rest of the world need not feel very acutely any of his personal woes. An amateur practitioner is a gift of generous nature usually very embarrassing to the recipients. Probably his best efforts result in a rough apprehension of the bearings of things in general, and in bundles of defects of all degrees of importance, everything being made still more defective by jejuneness, by the want of refinement, force, and definiteness of expression,—the quality which marks off architecture which is good from all that is inferior. The moral of this,—if it had been pursued far enough to entitle us to draw a moral,—would be that architects should master their craft well enough to take a delight in it, and that no one who does not devote himself regularly to the study and practice of it is likely to overcome the many obstacles which beset the entry upon the right path, and to acquire skill in walking along it. Many of the obstacles must be overcome afresh whenever there is a fresh attempt after a considerable interval to undertake and go well through a task in design. We believe that it has always been necessary for a certain number of people to give a good deal of their lives to the cultivation of their natural powers of design, and that no approach to perfection has ever been made except after long labour and training. We believe that in England at the present day the control of all building should be in the hands of trained persons who can and will direct it carefully, skilfully, and honourably. There is ample justification, as we feel, in the nature of things,—without allowing self-interest to affect our judgment,—for the separate existence of our profession. You will see that I have thus prepared the way for saying that the Association gives a good help to students nowadays in reaching the inner meaning and fitting themselves for the effective practice of our work,—an art which has not begun its march or taken its greatest steps within recent generations,—its laws being embodied in the works of old masters, many belonging to other centuries and other countries, who learnt at first hand, from nature and their own souls, the lessons which they taught again in the enduring works which remain for our instruction to-day. No theory of design, however well learnt, can give power, which must come from nature, and be strengthened and developed by well-directed training. The Association gives the younger men in the profession the opportunity of learning from one another, and from older men who can impart some of the experience gained as students and practitioners. Healthy emulation, many incentives to persistent work, and the chance of seeing their work through other people's eyes, are some of the advantages. Others need not be pointed out by me, as I trust you will hear about them from the lips of those friends who will now address a few words to us by expressing good hope of a prosperous, useful session.

Mr. F. C. Penrose said,—Mr. President: It is with very great pleasure that I rise to thank you for your extremely able and suggestive address, and to testify my right goodwill to the Association. I believe it to be of the greatest importance to the architecture of this country that the Architectural Association should continue to form a gathering-ground, as it were, for the architects of the future; for this Association stands to the superior and elder body, the Institute, much in the same relation as the Militia force stands to the Army. I regard the work of the Association as one of extreme value, and I have seen some little of it, having been permitted to take part in some of the interesting excursions which were organised by our lamented friend, Mr. Edmund Sharpe. In connexion with those excursions, and in other instances, I have noticed with great pleasure the zeal displayed by the members under the instruction and guidance of the President for the time being, and I trust that that happy state of things will continue.

Mr. Truefitt, who was called upon by the President, was understood to say that he had always taken a very great interest in the Association, having joined it about five-and-twenty years ago, when the Architectural Exhibition was in existence. He thought it would be a good thing for the Association to endeavour to resuscitate the Architectural Exhibition.

Mr. Millican, president of the Leicester Society of Architects, said,—As the humble president of a provincial architectural society, it gives me much pleasure to be present, and it does me very great good to see so much zeal and enthusiasm displayed by the members of the Architectural Association. I came up on Monday last to attend the meeting of the Royal Institute of British Architects, and I thought it was no less than my duty to come here to-night, in response to the kind invitation of your worthy President, to see the meeting at which we are now assisting. I felt on Monday that I was in the company of the veterans of the art, but to-night I see around me the recruits and the

* We print this note at the special request of the Committee, who think that it may lead others to contribute to the library.

rank-and-file,—to carry out Mr. Penrose's simile,—and I am sure I can congratulate them on the immense opportunities they have, in an Association of this kind, over what we older men had in the days gone by. I can speak of thirty-five years ago, when I was articled in a country office, where the only works we had to refer to were that venerable old book of Peter Nicholson, and a few others of that kind. With the opportunities that are now placed within the reach of the younger members of the profession, I am quite certain that the architecture of the nineteenth century will establish itself as one not to be forgotten in the history of our art. The presence with us of so many ladies leads me to observe that although the professions of Law and Physic have already been attacked by the assertion of ladies' rights, I know of no attack on our own profession by ladies, who had better rest content with remaining, as they are, the queens and chief ornaments of the interiors of the buildings that we may have the honour to erect. In returning to Leicester I shall take back to my own society a most favourable impression of your Association and its work. I shall go back prouder of my profession, and with a deeper conviction than ever that there will be a better future for architecture. I hope that this Association will help to bring about a substantial settlement of the great competition system. It is my conviction that competition, honourably carried out and fairly judged, has been the means, and always will be the means, of bringing to the front rank a great many struggling men of ability and talent who would never, but for competition, have attained to their proper position. I think of course, that there is very great scope for improvement in the way in which competitions are conducted. There is also the burning question of quantities. I hope we shall speedily arrive at a proper settlement of it. There is no doubt that the more architects are associated, the more they come before the public, the better will they and the needs of their profession be understood. I have been ashamed when, in a court of law, I have sometimes heard learned counsel display their utter ignorance of the real position of an architect. I shall take back to Leicester with me a very agreeable impression of the Architectural Association and its work, and shall, I hope, be able to put a little more enthusiasm into our own rather languishing society.

Professor Kerr, in the course of a long speech, said,—I am very happy to congratulate you, sir, upon occupying the chair of this Association, as I have congratulated many of your predecessors, and I feel quite sure that you will continue the good work of the Association as far as in you lies, and on the same lines on which it has been successfully carried on so long. I feel complimented by the reference to my name made by my very old friend Mr. Godwin with reference to our exertions many, many years ago in connexion with this Association. I can say of Mr. Godwin what he could scarcely say of himself, and if he had not happened to mention it I should not have presumed to say what I am now about to tell you. Many gentlemen (including, of course, most of the younger members of the Association, and some of the elder ones) are quite unaware of the way in which this Association was supported, and of the important part which Mr. Godwin took in it. It was in the year 1847 that this Association was started upon the lines of a previously-existing very small club of architectural draughtsmen. I find I had something to do with the initiation of it, and I think Mr. Truefitt was one of the founders. [Mr. Truefitt: No.] At all events, the Association did me the honour to appoint me to occupy the chair which you now so worthily fill, and I applied to Professor Donaldson and Mr. Godwin to come down and start the Association. Those two gentlemen were then precisely in the position they now occupy in the profession,—higher positions they could not occupy,—and they came down most heartily and helped the Association. Indeed, but for the patronage of Professor Donaldson,—who was at that time, as he has since remained, at the head of the profession in his particular department,—and but for the constant support of the Association in the pages of the *Builder* by our friend Mr. Godwin, I really think this Association could never have been started. I will say no more on that subject, but will pass to other topics. The opening *conversazione* of this Association has generally,—almost always,—been held before the opening meeting of the Institute. This year, however, it is held after the opening meeting of the Institute, and I am inclined to think that if the Association will take it into consideration, they will find it more advantageous, in the future, to always hold it after the opening meeting of the Institute,—for this reason: that the President of the Institute, at the opening meeting, delivers himself of his address, and then we have something to talk about. The President of the Institute may, of course, be considered, for the time being, to be at the head of this Association and of all kindred societies. Probably most gentlemen present will be aware that the Institute has recently established a somewhat novel *régime*, part of which,—and an important part,—is, that the presidential chair for the future shall be occupied by a succession of gentlemen who are fairly representative of the best class of architects; and thus, when we have from the lips of such men as Mr. Charles Barry and Mr. Whichcord such addresses as those gentlemen have delivered, it is extremely convenient for us to reflect upon them, because we have in them the best average intelligence of the whole profession. In former years, when such gentlemen as Sir William Tite and Sir Gilbert Scott delivered addresses, the members of the Institute were necessarily a good deal restrained, from many considerations, in commenting upon them, but now we have addresses given by men who are of ourselves. I should like to refer to one or two points alluded to by Mr. Whichcord in his address, and which, as it seems to me, are of particular interest to the members of the Association. I observed in the report of the proceedings of the opening meeting of the Association, that Mr. Henry, who is at the head of the Architectural Science Class, was obliged to acknowledge that, in effect, that class was unsuccessful. Now, Mr. Whichcord, in his address to the Institute of Architects last Monday, laid down one proposition which was very remarkable, and has some bearing on this unfortunate circumstance. He said, in effect:—"While I am President of the Institute I shall consider it my duty to promote as far as I can the discussion of practical subjects." Not that Mr. Whichcord, who is a man of artistic instincts as much as any man, desires to disparage the influence of art, or the importance of art as a study for members of the profession, but because he, as an experienced man of business, begins to perceive that art can pretty well now, fortunately for us, look after itself, although science, unfortunately for us, cannot do so. Now, when we speak of a scientific man in the architectural profession we mean primarily a man who understands how to build as distinguished from the man who understands, not, perhaps, how to build, but certainly and notably how to design a building beautifully. The profession of architecture combines, in a way in which no other profession in the world combines, three most important and apparently diverse matters of knowledge and study,—art, science, and administration. An architect, even in prosaic England, if he is to be one of high standing, must be an artist equally with the painters of the Royal Academy; he must be a man of good scientific skill, like the members of the Institution of Civil Engineers; and, at the same time, he must be a man of good administrative powers in matters of business. Now, these three elements are not combined in any other profession that we know. What Mr. Whichcord means, in effect, is this,—that during the last ten or fifteen years, by some means which are not very clear, English architects have, in common, I am bound to say, with English artists of many other classes, been extremely successful in their study of art. England at the present moment is rising rapidly in the school which is constituted by the nations of the world, as regards artistic design, and amongst other classes of artists, the class of architects has already risen very rapidly and very highly indeed. Having done so well in art, then, during the last fifteen or twenty years, and having done nothing, or scarcely anything, in science, why not,—I will not say leave art alone for a little while, but,—consider the demands of art to be to some extent satisfied, and devote your attention specially to science? Now what Mr. Whichcord means by science is not the ordinary facility of building, not the ordinary constructive powers, but that higher science which the engineer possesses. Mr. Whichcord does not see why, and I do not see why, the architect should not be as successful in his mathematical appreciation of construction as the engineer. We have in this room, in the person of a gentleman who has spoken to-night, one of the most distinguished mathematicians of the day, and when a gentleman carrying on the profession of an architect can find the time, as Mr. Penrose did in 1878, to visit the Rocky Mountains in order to make a drawing of the corona of the sun, he gives sufficient proof of his ardour in scientific pursuits. I am sure Mr. Penrose will bear me out in saying that there is no reason whatever why architects should play second to the engineers in anything. That is the substance of what Mr. Whichcord desires to impress upon us, and I would re-echo his remarks in impressing upon young architects the essential importance of studying the science of architecture. The time has come when science is becoming of much more importance in this as in other professions. There is another consideration which is of great importance to the younger members of the profession. The time has now come when the examination test is about to be introduced into this profession of ours. The time for such a thing was bound to come, sooner or later, and it has come now. Mr. Whichcord announces his resolution, as President of the Institute, to devote himself to this very important question. There is one other point upon which I should like to say a few words,—that is, as to a question which is of great importance to every one present here, as it concerns the honour of the profession. The architectural profession has had its honour very seriously impugned of late years. It has been said that some architects,—and of course no one says how many,—are, in respect of what is called fiduciary agency, not exactly what they ought to be as regards honour. Now Mr. Whichcord alluded to that topic in his address, and my good friend Mr. Godwin took upon himself to make some remarks on the subject, and I was delighted beyond measure with those remarks, for the observations he made could not possibly have come with the same force from any other man in the profession. Occupying, as Mr. Godwin has done for the last twenty-five years or more, a peculiarly advantageous position for knowing what has been going on in the profession, he was able to say, in effect, that instead of the men who constitute the profession maligned in so cowardly a manner being dishonourable, they are the most honourable and chivalrous profession that he knows of, and pursuing the end and aim of their art under circumstances very often of great self-denial. Now, my experience of the profession is not in any degree that of Mr. Godwin; but I venture to say this,—that I have always congratulated young men who were entering the profession by telling them they were entering a profession which, more than any other I know, is honourable. When we consider how corruption stalks abroad in every kind of business in this country at the present time, I am ashamed to think that any one should impugn the honour of a profession like ours. Our friend Mr. Godwin made this reservation,—though I can scarcely call it that,—that when architects take out their own quantities, they are likely to place themselves in a false position. Now the story goes, that once upon a time a gentleman gave a professional dinner. A good many architects were invited, and a great many builders. The architects came in cabs, the builders came in their broughams. Some quiet, observant gentleman at last noticed this, and he asked the reason of it, when the answer was volunteered, "That is the difference between five per cent. and fifteen per cent!" Now, sir, if you or my friend, Mr. Barry, were to give a dinner to a number of architects and to a number of surveyors, some of the surveyors would come in their broughams, and others of their number would come in Hansom cabs, rattling up to the door with great *éclat*, paying the cabman quite regardless of such a thing as "change," and giving one to understand at a glance that they were men very well-to-do in the world. On the other hand, some of the architects would come on foot, and others would come four in the inside of a four-wheeled cab, and one on the box. Now that, putting it very broadly indeed, is the primary distinction as regards finances between architects and surveyors, and I therefore say that I think, for one or two reasons, young architects, at all events, ought to be permitted,—and I venture to think that the Institute does intend to permit them, cheerfully, so long as it is fairly and straightforwardly done,—to take out their own quantities, and to receive for such work the greater emolument than they receive for the preparation of the drawings.

But there is another consideration, and it is a most important one. It is well known by practical men that nothing teaches a young architect so well the *arcana* of his own profession as taking out quantities for the buildings he designs; and considering that we, as a profession, are honest men, and may be trusted, I think it is very advisable that the young men should be encouraged, as a matter of learning, to take out their own quantities. One word more. When a young man in our profession is starting in business, he can always start upon knowing how to make up a builder's bill, but he may find it a very difficult thing to start only knowing how to design an extremely handsome building. In conclusion, I have only to say that I wish you and the Association a very prosperous year, and I am perfectly sure that that wish will be realised.

The President.—Mr. Charles Barry is present, and he has always been so great a friend to the Association that we should not like to let him go away without saying a few words to us.

Mr. Barry, in the course of his remarks, said,—I shall not attempt to follow the learned Professor through his speech, but will only refer to two points. As to the question of "illicit commissions," I wish only to say that I think it now becomes the dignity of the profession to say no more about it. I think it is a bogey which has been entirely dispelled now. We are conscious of our own integrity as a profession. To say that in our profession, as in all callings of life, there are some few men who act dishonestly, is to state a self-evident fact. I was extremely glad to hear the other evening at the Institute, from such an authority as Mr. George Godwin, that his conclusion had been, and was, that architects were on the whole, and very much on the whole, a thoroughly honourable profession; and, further, that he had endeavoured, with the power which he can have, to follow up some of the general charges which have been made against them to a specific course, and that such charges have invariably broken down. No better testimony could be given. The only other subject to which I will allude is the suggestion that in future the profession is to be entered only by means of examination. I have only to say with regard to this, that as a very old member of the Institute, I hope the experiment will be tried, and tried thoroughly, fairly, and honestly. That it is a question surrounded by enormous difficulties, I think any one who thinks about it will see at once. It is quite impossible, for instance, for any board of examiners to say whether one man, as compared with another, is a good artist or not,—indeed, it would be impertinent; and yet it is quite possible for a man to be a thoroughly good practical architect and no artist at all, while it is equally possible for a man to be a good architectural artist, and no man of business. But the Examination, if it is to have any force at all, must deal with both these difficulties. I only say this to prepare our friends, both old and young, for possible non-success; but the difficulties may be, and I hope will be, surmounted by perseverance.

The company then dispersed to listen to the music of Coote & Tinney's band in the large gallery on the ground-floor. Owing to the space on the walls, screens, and tables in the galleries on this floor being occupied by other objects, the Association was not able to make its usual exhibition of drawings, &c. There were a few other exhibits, however, and we may make mention of some effective wall-papers with ornament in relief (applied on the surface, not stamped), shown by Messrs. Scott, Cuthbertson, & Co., of Chelsea; and of a collection of pottery, consisting of vases and plates, lent by Messrs. Buckley & Co., of Wells-street, Oxford-street. These works were stated to be the production of a self-taught potter, Mr. E. Bingham, a schoolmaster by profession, the clay being "obtained in his garden at Castle Hedingham, Essex," and "all the modelling being done by means of a chicken bone." By the courtesy of the Council of the Royal Institute of British Architects, their meeting-room and library were placed at the disposal of the Association for the evening, and Mr. Boyd kindly allowed refreshments to be served in the Museum of Architectural and Building Appliances.

Smithfield Club Show.—The Show at the Agricultural Hall includes many things likely to interest our readers. There is still time to go, on (this) Friday, the 12th inst.

NOTES ON IRONWORK.*

THE branch of science which enables the engineer to determine the theoretical amount of strain in the members of any proposed structure may be said to appeal directly to ordinary intelligence, and to be on the whole simple. The science, however, depends upon data and conditions the exact influence of which can never be determined in actual practice. It is proposed, therefore, in this paper to consider briefly some of the practical questions which affect theoretical deductions, and the design, efficiency, and economy of ironwork structures generally. The precise conditions under which ironwork will be constructed and worked being indeterminable, it becomes necessary, among other matters, to have some knowledge or workshop practice or routine in order to determine the proper limits and importance to assign to theoretical results.

In taking out strains, it is usually assumed that each member has a normal length whatever the amount of strain to which it is subjected, and that its conditions are the same as they would be were it free to turn in a plane about its extremities. Both of these assumptions are, to a certain extent, erroneous. So far from any bar having a normal length, that is being perfectly rigid, it may be taken for granted that directly any piece of iron is subjected to a tensile or compressive strain its length is varied accordingly. Likewise, no member of any structure is perfectly free to turn in a plane about its extremities; were it so, each junction would have to be made with an absolutely frictionless pin. In English practice, junctions are frequently made with innumerable small rivets, which render them to all intents and purposes rigid. In America, however, pin connexions are employed to a very large extent, and undoubtedly, with pins and eyes properly proportioned, efficient joints may be made, and with simple arrangements of parts, theory be more closely approached than with our complicated systems with riveted joints.

Variations in the temperature of the atmosphere likewise materially affect the strains in iron structures. When constructing an iron bridge, a camber is given to it, so that when loaded it may assume a straight line, instead of exhibiting signs of apparent weakness by sagging. While testing the bridge, it is usual to measure the camber as the load is put on, and it is not uncommon to find that on a warm day the camber is greater than it was the evening before, notwithstanding that a larger amount of load has been put upon it. This anomaly is due simply to the sun warming up the top flanges, and causing them to extend, whilst the bottom flanges have not extended to a similar extent, owing to being protected from the sun by a platform or the load upon the bridge. It has been ascertained that a variation of temperature in iron of 15° Fahr. will produce the same effect as one ton actual load per square inch; therefore, a change of 82·5° Fahr. will produce the same effect as 5·5 tons per square inch actual load, which is greater than the amount of strain supposed to be put upon any bar when under its full working load. Now, although the difference between the extremes of temperature in this country may be estimated at 82·5° Fahr., the extreme temperatures only act during a short portion of each twenty-four hours; and so, owing to the mass of iron and other circumstances, the temperature of the structure is seldom the same as that of the atmosphere, consequently the iron is not affected to the full extent just mentioned. There are, of course, many positions which will at once suggest themselves where the temperature is tolerably uniform throughout the year, and where accordingly no provision need be made for expansion and contraction due to changes of temperature. In exposed positions in this country an allowance of seven-sixteenths of an inch in each 100 ft. should be made if it is wished to eliminate strains which it has been shown may be of considerable amount. Edwin Clark has placed it on record that half an hour's sunshine has more effect on the tubes of the Britannia Bridge than the heaviest rolling loads or the most violent storms.

Questions of the foregoing nature having been considered, and the strains upon the various members of the proposed structure having been determined within reasonable limits, it becomes necessary to arrange the material to meet them. It is in doing this properly and economically that the art of designing ironwork consists. In all designs every endeavour should be made to employ iron of such dimensions and weights that it may be easily procured in the open market, and require only such workmanship as can be cheaply and readily performed. By attention to these points economy will be more surely attained than by saving in the weight of iron which may be effected by adhering more closely to theoretical refinements. As an instance of this it may be stated that the actual weight of a plate girder is always very much in excess of its theoretical weight, and it is rarely the lightest form of girder which it is possible to design to carry a load; it is yet generally the most economical type to adopt for small spans, owing to the uniformity of its parts and the simplicity of its manufacture. While mentioning plate-girders it may be well to state that although the theoretical economical depth of all girders depends upon their description, the loads to be carried, and a variety of other circumstances, the depth of a plate-girder is often fixed by one consideration alone, and that of a practical nature quite beyond the control of the designer. It is simply the fact that plates cannot be rolled at ordinary rates over 4 ft. 6 in. in width, so that the maximum depth of ordinary plate-girders is fixed at 4 ft. 6 in. If this depth is exceeded it becomes necessary to plate the web vertically, which will enhance the cost of the work to an extent exceeding the saving likely to result from conforming more nearly to any greater depth which theory might dictate. In arranging the flanges, although theoretically the section of metal should be reduced at certain points, it is generally desirable, when a limited number of girders are to be made from one design, to keep the plates as nearly uniform in thickness as possible, rather than to vary their thickness so as to approach more closely to the amount of metal required to meet the strain. However, where a large number of girders are to be constructed from the same design, the plates may be varied in thickness without increasing in any way the cost of the work, as the plates can be ordered in batches from the rolling-mills and relegated to their respective girders in the manufacturer's yards.

At one time much of the iron employed for girder and bridge building came from Staffordshire: consequently specifications were prepared in such a manner that iron from this district might comply with their stipulations. These specifications have been copied and re-copied even up to the present time, notwithstanding that Staffordshire iron is now rarely put into ordinary work, for the reason that the sizes of the iron supplied from this district are small when compared with those from the north country. This is owing to the Staffordshire mills working with plant which was put down many years since, whilst the ironworks in the Cleveland district are provided with more modern machinery and improved appliances. A South Staffordshire plate to cost the ordinary market rate must not be over 4 cwt. in weight, 15 ft. in length, and 4 ft. in breadth, and about 30 superficial feet in area; whereas Cleveland plates can be procured without additional cost up to 21 ft. in length, 4 ft. 6 in. in width, and 12 cwt. in weight, providing the area does not exceed 56 superficial feet. Although plates from the latter district may be obtained possessing as great a tensile strength both with and across the fibre as those from Staffordshire, they are not as a rule equal to the latter in toughness. Extra care should therefore be taken to test and thoroughly ascertain the quality of the iron, as it is sometimes very brittle. No attention whatever should be paid to "brand," as it is no criterion by which to judge of the qualities of iron usually employed for the construction of ordinary ironwork. A very fair specification for girder-iron is 20 tons per square inch and 6 per cent. elongation with the fibre; 18 tons per square inch and 3 per cent. elongation across the fibre for plates; 22 tons per square inch and 9 per cent. elongation for ⌊ and T's; and 24 tons per square inch and 15 per cent. elongation for rods and bars. These elongations ought to be taken on a testing section of uniform width for a length of 6½ in. In a length of 6½ in. there are one hundred sixteenths of an inch, so that each ¼ elongation after testing represents 1 per cent. In preparing all samples for testing they should be drilled out of the plate angle or bar,

* From a paper by Mr. Graham Smith, C.E., read at the Mitcham meeting of the Association of Municipal and Sanitary Engineers and Surveyors, December 5th.

and be either chipped or slotted to the required dimensions, and all tool-marks carefully filed out, and the parallel portions should run in with curves of large radii to the portions through which the pin-holes are drilled. In the event of there being the slightest shoulder at either of these points, it will have the same effect as a nick in the iron, which will generally render worthless the test for both tensile strength and elongation. With a little experience the quality of a plate may be determined to some extent by breaking the corner off over an anvil, and by inspecting the punchings from the plates. If the iron is brittle and untrastworthy, the punchings will show cracks in all directions if the punch be working as ordinarily with a little clearance, whereas if the iron is good and reliable slight cracks only will be perceptible,—all running in the direction of the fibre. Whilst these workshop tests can be carried out in the manufacturer's yard by the inspector during the progress of the work, all tests requiring to be made with hydraulic presses or steelyards, should be conducted by independent authorities, such as Mr. Kirkaldy. After the material has been tested and passed, and the structure put together, it becomes necessary to apply a proof-load, which consists of gradually placing on the structure a weight somewhat exceeding its working load. This is requisite in order to ascertain if the workmanship is up to the proper standard. It must, however, be always remembered that a proof-load is no test of the strength of the structure or the quality of the material. If the iron is hard and brittle it will give less than a material of more desirable quality, and the structure will apparently be stronger, but it is needless to state that such is not the case. Again, any part may be on the point of breaking, and yet not yield sufficiently to materially alter the deflection. Likewise, although a structure may stand the application of a proof-load at the time of testing, it does not follow that it will stand repeated applications of loads of even less amount than the proof load. Fairbairn's experiments, carried out many years back, demonstrated this fact. He found that when the strain on the iron of a beam was between six and seven tons per square inch, the beam sustained an unlimited number of applications of the load producing this strain; but when the load was increased so as to put a strain of from eight to nine tons per square inch on the iron, the beam failed with comparatively few applications of the load.

MALTON URBAN SANITARY AUTHORITY.

An important meeting of this Authority was held last month, when several cases of infringement of the bye-laws were reported by Mr. J. Lawton Welsh, the borough surveyor. The Authority unanimously decided to support their surveyor in the carrying out of the same, the chairman remarking that the bye-laws had for some time been systematically evaded, and in future legal proceedings would be instituted against offenders.

They also approved of plans prepared by their surveyor, for stables, stores, &c., and have adopted the tub system of scavenging, the Manchester system for better class houses, and the Rochdale system for cottages, at the surveyor's recommendation,—the borough being divided into districts for night and day scavenging.

HEALTHY HOUSES.

Eight years ago the district of West Brighton, which was then known as the Stanford Estate, had only one building upon it, of the annual value of 40*l.*, while now there are some 526 residences, many of them mansions, the whole representing a total outlay, it is asserted, of 2,000,000*l.* sterling. One of these houses has been arranged in accordance with the plans of Dr. Hayward and Dr. Drysdale, of Liverpool, whose scheme for the ventilation of houses has been mentioned in these pages before now. The plan adopted in the present case appears to be this:—To construct an air-shaft, the inlet of which is situate in the basement, and which ascends to the top of the house, there being communicating flues with each apartment of the building. The air thus introduced into the house is first passed through a hot-water apparatus, and thence ascends and enters the various apartments through a perforated cornice. The vitiated air, on the other hand, leaves the room through another perforated cornice on the opposite side of the room, and is drawn upwards into a chamber, and afterwards into a flue, by a contrivance which utilises the heat arising from the kitchen fires for the purpose of keeping up a continuous circulation of the air.

FEMALE SCHOOL OF ART.

The exhibition of selected works by the pupils at Queen's-square took place last week, and Miss Gann has reason to feel satisfied with the number of medals and premiums awarded. The Queen's scholarship was gained by Miss Florence Reason; National Gilchrist scholarships by Miss Harriet Ada Payne and Miss Ethel Mary Spiller; the Princess of Wales and subscribers' scholarships by Miss Catherine Martha Wood; subscribers' scholarship by Miss Ellen A. Chrismas. Queen's gold medal (head from life, in chalk) by Miss Ellen Amelia Chrismas. The national gold medal (group from nature, in oil, azaleas, &c.) went to Miss Catherine M. Wood, the national silver medal (bay-leaves from nature, water-colour) to Miss Ethel Nisbet, and the national bronze medals to Miss Maud A. West and to Miss Margaret Dickson. National and Queen's prizes (modelling figure, antique) to Miss Susan Ruth Canton, Miss Louisa Jacobs, Miss Amelia Walter, Miss Edith Gibson (figure, antique, chalk), and Miss Mary E. Carter (painting in monochrome from cast). The other prizes are too numerous to specify. We do not yet recognise the Genius which an old friend of the institution at a prize-giving meeting some time ago asked for from the school, one who is to take a place in the history of art, but there is much ability to be seen, ability fostered by careful teaching, and some of our manufacturers might usefully look there for artistic assistance needed in their establishments.

THE TOWER OF ST. MARY'S, BUNGAY.

This tower, as most Suffolk people know, is a magnificent specimen of flint panelled work of the early part of the sixteenth century, with octagon turrets at each corner, terminating with carved stone pinnacles. But what people did not know, including many of the inhabitants of Bungay, was that the tower was in such a tottering state that it might have fallen at any moment. Two sides of it stood upon stone arches, which rested on an angle pier at the north-east corner. The arches and piers were made of the softest kind of stone, a kind of clunch, and became, more than 100 years ago, perfectly shattered. Some time in the latter part of last century this pier and arches were encased in wood shores and bound together with large iron rods and plates. These gradually lost their hold, the tower was in imminent danger of falling, and it required the greatest care to prevent its sharing the fate of Chichester tower. Mr. Phipson directed very massive piers, about 30 ft. high, in brickwork in cement, to be built on each side of the weak part, and from these he placed wrought-iron girders of enormous strength through certain portions of the walls, and with the aid of very powerful hydraulic jacks the upper part of the tower, weighing something like 600 tons, was slightly raised, and was kept suspended in the air for nearly three months, whilst the defective arches and pier were entirely removed, and the whole of the lower part on two sides, to the height of nearly 30 ft., was entirely rebuilt. The upper part of the tower was then let down into its place. The whole of the work has been carried out without the slightest settlement or fracture of any kind. Mr. Owen was the clerk of the works, and Mr. Richardson the foreman. The cost of this work has amounted to nearly 1,500*l.*

FIREPROOF FLOORS.

Sir,—Your correspondent, "Fair Play," in a recent issue states he considers my system to be the same as that patented by Mr. Thaddeus Hyatt, and described in a book published by him in 1877.

My system is an improvement on the original patent of Mr. Matthew Allen, sen., taken out about eighteen years since. It was first adopted by me in 1874, and patented in 1875. I attended, by invitation, a discussion on concrete, at the Institute of Architects, in the spring of 1876, and exhibited specimens of my improvements.

The book published by Mr. Hyatt in 1877, I have not seen, nor do I know its contents, and none of my improvements have been suggested by anything Mr. Hyatt has done.

In your issue of November 22nd there is a most interesting letter, signed "A. D. Hogg." I am obliged to him for the kind tone of his criticism, and the suggestions he makes shall have my best attention.

W. H. Lascelles.

THE CROSS AND HORSE-SHOE, ST. GEORGE'S, FOVANT.

A variety of suggestions have been made as to the carved horse-shoe on the cross, but are wide of the mark. We understand that the cross was found in the walls when the church was restored, and was then placed in its present position. The rector, the Rev. Alfred Earle, who has received a number of letters on the subject, and proposes presently to publish a digest of them, inclines to the opinion that it was a tombstone or monument to a smith, the shoe indicating his trade. Monumental slabs with memorials of the trade of the person buried beneath are not uncommon. There is a noted instance in memory of a cook in the church of St. Mary Redcliff, Bristol. But the cross at Fovant is not exactly of this character.

TOWN OF ST. HELIER'S NEW MARKET BUILDINGS' COMPETITION.

The principal "conditions" are as follow:—

"1. The two best designs (including plans, detailed estimates, and specifications) to receive premiums of 30*l.* and 20*l.* respectively each. The committee to be sole referee.

2. No percentage or other commission to be allowed on account of any premiated or adopted design.

3. All plans and designs to remain the absolute property of the committee, at the option of the committee."

Several correspondents express their indignation, and no wonder; but if, spite of indignation, architects send in designs in accordance with such conditions, no surprise need be felt when other bodies offer similar terms.

EASTBOURNE TOWN-HALL AND OFFICES COMPETITION.

Sir,—The above certainly deserves attention called to it on the part of architects, owing to the cool and unfair manner in which it is proposed to deal with members of the architectural profession; and if my letter should cause only a few of those who usually go in for competitions to think at least twice before risking the loss of time, &c., to gain such handsome remuneration for their pains, and at the same time helping to drag what should be an honourable profession down to the level of a third-rate "co-operative" store, my time will be well spent.

Surely some, if not all, the members of the Eastbourne Local Board are, or have been, tradesmen, and have always been in the habit of charging a fair price for their several wares, according to the usual business mode; if so, then why have they the impudence, not to say ignorance, to ask professional men to give them 500*l.* worth for 75*l.* or 50*l.*, as the advertisement in your paper clearly does? The usual professional charge is 3½ per cent. for drawings, &c., and this on 30,000*l.*, the limited amount to be laid out, comes to 500*l.*; and yet the profession is coolly asked to compete for the honour of providing 500*l.* worth for 75*l.*, and thus to lower each competitor and his fellow artists at the same time.

I hope, sir, that by drawing the attention of architects to such proceedings that you will be able, at least, to prevent time and trouble being thrown away; and as the surveyor to the Board is to carry out the drawings, perhaps he had better also make them.

A Competition Man of Eleven Years' Experience.

ARCHITECTS AND SURVEYORS.

Sir,—I greatly respect Professor Kerr, and always feel a pleasure in listening to the words which fall so gracefully from his lips, but I cannot help thinking that on Friday last his story about the architects' means and the surveyors' means was rather overdone and not strictly correct.

I have had considerable practice in both branches of the profession, and I assert that I would rather act as architect to an ordinary building at five per cent. than prepare the quantities at three per cent., as quantity-taking is a personal matter, real collar-work, while the drawings can be entrusted to assistants with a general supervision from the principal. Quantity-taking requires years of experience; and I should be sorry for the contractors who had to base their estimates on the bills prepared by the young architects who, to add to their incomes, ventured on a dangerous experiment.

Observer.

Sculpture Competition, Paris.—The following are the awards of the jury appointed to choose the design for a monument in commemoration of the Defence of Paris, to be erected on the Rond Point at Courbevoie:—1st prize, M. Barrias; 2nd prize, M. Lequien (Alexandre); 3rd prize, M. Mathurin Moreau. Honourable mentions:—Messrs. Aubé, Chaplain, Léon Noël, Falguière, Steiner, Paris, Labatut, Damaige, Cougny, Taluet, Perrey (Léon), Maillet (Jacques). The premiums are respectively 15,000, 3,000, and 2,500 francs.

JOHN BRITTON IN CLERKENWELL.

SIR,—I was much interested with the *Builder* last week. The President's address was excellent. With great tact it combined all the elements of the topics of the day. As regards your own speech, I quite agree with you that we are much indebted to our good friend, John Britton. By coincidence his birthday, July 7th, was mine. I beg to inclose an original letter (not published) which will interest you.

W. P. G.

MANY thanks, my dear sir, for your friendly recollection of me by sending an impression of your new font for Clerkenwell Church.

Perhaps you are not fully apprised of my long residence in the parish of Clerkenwell,—first, on my arrival in London, in 1788, when I resided for some months in the Close; thence I went to the Jerusalem Tavern on the Green, where I was *buried* for nearly six years. I afterwards lodged in Rosomond-street, then Corporation-lane, and next took a house in Wilderness-row, where the "Beauties of England" were commenced. I was married by Mr. Lendon in St. John's Chapel, and am now busily employed in penning "the last dying speech and confession" of your *old* friend,

J. BRITTON.

March 18, 1832.
W. P. GRIFFITH, Esq.

SCHOOL OF WOOD-CARVING.

SIR,—Permit me, by way of preface to this letter defending my dictum that there are several men of various accomplishments required in the practice of wood-carving, to add that *a wood-carver should be able to carry out any design, and a designer should understand every style.*

We all remember the beautiful works of Mr. Wallis, and whenever they are spoken of it is with praise; but he does not disprove my assertion in the letter he has addressed to you, sir. I submit that to tie up some dead canaries, and pin out a wing on one side, and ruffle some feathers on the other, and then to "represent what the eye could see," does not show that the executant is a designer, however faithfully and delicately the subject may be copied. If well done,—and all Mr. Wallis's birds were well done,—it proves that, when a living wood-carver, he was a man of great capabilities in one direction. That his special talent was duly appreciated, his strong and lusty "voice from the dead" will amply show.

Mr. Wallis, in fact, all through his letter, confirms my statement. He says he pursued his own individual work, but employed the best London men to do the other styles of carving. Again, he acknowledges that London life renders the triple method necessary. Mr. Wallis has evidently misread Mr. Ruskin's sentence, "the surface is everything." It referred not to carving in wood or stone, but to *drawings* of sculptured ornament.

Your other correspondent, "Meter," in also combating my maxim, "One man cannot do it," which you will observe is in the present tense, and was applied to the present state of the art-industry in England, mentions, as an overwhelming argument, the name of Grinling Gibbons, the great carver, who died nearly 120 years ago. This is evidently a piece of his favourite logic. But even on his own ground I am bold enough to say that even Gibbons has left us no proof that he was a designer in the full and proper sense of the term. He grouped flowers and fruit together with infinite taste, and, in addition, introduced a good species of scroll-work adapted from the Italian, which he used with great effect and genuine originality. But here ended his claim to be a designer. Had he been called upon to enrich a Byzantine basilica, an Oriental palace, or a Tudor mansion, the result, in all probability, would have been as incongruous as when he added to Canterbury Cathedral his beautiful but misplaced festoons.

A few words, before I put down my pen, relative to my late father. He was a man of rare artistic genius and quick imagination, and a master-carver of the first order. Scarcely a man of business, however; for he spent his fortune in the pure and simple effort to advance his art, collecting specimens of ancient and modern art-work from all parts of Europe long before there was a South Kensington Museum in which to study, and keeping young men employed through years without the chance, or even the wish, for gain, and training them as he so well knew how to do. The Royal Cradle was designed by my brother, and the carving was executed by several of my father's trained hands, not by *one*, as Mr. Wallis states. I have all the details of time and expenditure to refer to, apart from my own knowledge of the way the work was carried out.

With regard to my late brother, Mr. Harry Rogers, I may, without chance of denial, say that he was one of the best, if not the best, ornamental designer England has produced this century. His knowledge of architecture and architectural ornament of every style, his studies here and in Continental cities, and not the least his Classical education, combined to produce an artistic designer to whom I looked up with the greatest pride, and to whose teachings I owe what talent in design I possess.

GEORGE ALFRED ROGERS.

SIR,—It is very pleasant in these last expiring days of 1879 to find that Mr. Wallis, the unrivalled wood-carver, and the ideal for so many of us a quarter of a century ago, is not—as we all thought him—dead and gone; but yet liveth. The general impression was that study had brought on blindness, and that this grievous affliction, to the deep regret of every lover of art, had been succeeded by the lamented death of the artist in question.

I am rejoiced that such is not the case; and would insist that no man has more right to speak upon the subject of wood-carving than has Mr. Wallis. A good, old, and, I hope, never-to-be-forgotten saying runs:—"What man has done, man can do." But I question very much whether any man has lived since 1851, or is living now, who could carve a worthy companion-panel to Mr. Wallis's "Spring," which some will recollect was exhibited at the first Great Exhibition. It may be remembered that the study in question consisted of a ram's head and shepherd's crook hung against a wall, from which a wreath of early flowers drooped carelessly down. The delicate workmanship, the wonderfully-light arrangement, and the thoughtful grouping of that specimen of wood-carving, were altogether astonishing. I have never seen nor heard of it since, and know not who possesses it. All I am aware of is that whosoever is its owner has in his collection a piece of carving that admittedly stood without a rival in the entire Exhibition of 1851. And this was but one of Mr. Wallis's very many works.

The only man I know whose style of carving at all approaches that of Mr. Wallis is another East-countryman,—Mr. Minns, of Norwich. I saw some exquisite specimens of that gentleman's work at Vienna in 1873, and many who read these lines will remember with pleasure the choice samples of carved birds and foliage that clever carver exhibited at Paris last year. Like Mr. Wallis, Mr. Minns, I believe, does every stroke of his work himself.

Personally, I am wholly and solely an architectural man. To architectural detail, and especially to ornament, as an accessory to architecture, I give my sole attention. I have never flown at, and am sure, if I did, I have not the exceptional ability nor the power to produce by the manipulation of the chisel, such delicate and inspired representations of still life as every one of Wallis's studies affords; yet I can admire them with all the enthusiasm of an artist, and am proud to confess that admiration of "Spring" in the Exhibition of 1851, first filled with the desire to be a carver one who has, with no little good fortune, thank God, followed that profession for very many years since, and who signs himself

HARRY HEMS.

ST. ALBAN'S ABBEY.

SIR,—On a former occasion, Mr. Chapple, when hardly pressed, did not consider it beneath him to meet my arguments merely by attempting to throw discredit on me professionally, and on the honesty of my regard for ancient remains. He did this by making some unprovoked, unjust, and wholly irrelevant sneers at a reredos which was put up by me some twenty years since at Boxgrove,—a mere makeshift for the time-being,—as though it were intended as a permanent and worthy appurtenance to that grand old church when restored. In your last week's issue, whilst nominally and professedly accepting my challenge, he displays the unenviable discretion which, in some cases, is said to be the better part of valour,—by giving, as a correction of my section, the section of something else to which it is only remotely related.

I find that by his persistent evasion of the real question, some of your readers are scarcely aware what the exact issue is, which may be stated thus. In the length of the nave clearstory, on the south side, there were three distinct divisions of corbel-table, each one co-extensive and corresponding with the several periods of work in the bays beneath. That in the five western bays had simply moulded corbels. The middle bays had principally heads more or less grotesque. The three eastern bays had a corbel-table constructed of old Roman tiles (the others being principally of clunch stone), with stone corbels very simply moulded and cut, much decayed, and consequently not well defined in their form, with a distant likeness to those over the western bays. I arrived at a conclusion that the old corbel-table surmounting the undisturbed Norman work of the eastern bays was original, of Late Norman date, forming the eaves-course of the original roof. Other architects and antiquaries had expressed themselves puzzled by it, but had set it down as unquestionably Mediæval, without assuming to suggest its exact date. Mr. Chapple informs us that it was wholly modern, constructed within the last fifty years, and attempts to prove his case, not by analysis and reason, but by ridicule, assertion, and a little harmless vituperation. He actually evades the very points at issue, and sets up a dummy, which he forthwith proceeds to knock down. He says nothing as to the assertion which he at first made of the corbel-table having been built upon the top of a wall raised 5 ft. 6 in. in Mediæval rubble work. He gives a detail of a corbel-table, without any intimation as to its position in the length or breadth of the building. The detail which he gives is that of the unquestioned Mediæval one, and *not* that of the three eastern bays, of which alone I have all along spoken. He then refers me to Carter's plates as showing these eastern bays to have had in Carter's time a clunch stone corbel-table, like that of which he gives a section in your columns, in order to suggest that it had been rebuilt since Carter's time, in 1810. But Carter's plate shows nothing of the kind. It gives no indication of difference between the brickwork and stonework generally. It does give, however, some wavy lines below the corbel-table to indicate the junction of the work of the Norman period with that of the Mediæval. The corbel-table of which I gave a section, and which has been destroyed, is clearly the one indicated by Carter. In the letterpress the battlements (or parapets) are spoken of as in recent brickwork; but that this does not apply to the corbel-table is evident from the fact that in a detail given of the Mediæval portion of the corbel-table he indicates what he calls the recent work, *i.e.*, above the corbel-table, by leaving it plain. He gives no detail of these three eastern bays; and Mr. Chapple's detail was taken neither from Carter's illustration, nor yet from this portion of the building at all. He has not touched the real point except as to the thinness of the mortar joints. And even here he has prudently refrained from calling attention to the fact that the mortar joints, and, indeed, the whole work in the later Norman walling generally, and not only in this corbel-table, were thinner and finer than those in the tower. I deny that these had either the thinness or the character of the modern brickwork; and the construction and character of the work of the parapet were quite different to that of the corbel-table beneath it. It is impossible for them to have been built at the same period. And it is quite clear that the corbel-table to which I have all along referred (of whatsoever period it may have been) was not put up within the present century. The only opinion which I have heard expressed (except by Mr. Chapple) has been that it was Mediæval, and probably almost coëval with the western bays. I cannot accept this as a solution, any more than Mr. Chapple would be disposed to do so. He professes to correct my detail, but gives something else instead.' Portions of the corbel-table of the five western bays, of undoubted early Mediæval work, were made up of scraps of Roman tile and roofing tile, and anything that came to hand, such as Mr. Chapple described. And it followed to some extent the design of these three eastern bays, except that they used such of the old *débris* as was available; whereas in

the eastern part the old Roman tile not having been displaced or destroyed was merely repaired and surmounted with a stone string.

Surely I am fully justified in venturing to record the interesting nature of its construction, and to deplore its demolition, as something worse than unnecessary. As mayor of the borough in which this grand old building is located, Mr. Chapple may not think it beneath him to give a little more critical consideration to the history of this work specially under his care. He may still merely continue to ridicule my discovery of an "original Norman cornice," but, in any case, your readers will agree that it is he, not I, who has "found the mare's nest."

William White, F.S.A.

*** The correspondence may end here.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

The second meeting of the session was held on Wednesday, the 3rd inst., Mr. Thomas Morgan, F.S.A., in the chair. Several interesting documents relating to Wells Cathedral were exhibited by the Rev. Canon Burnard, among them being a little-known grant, by King Edgar, of land at Stanton, Wilts, and attested by Dunstan and several dignitaries of the period.

Mr. W. de Grey Birch described an inscription on an external buttress of the same cathedral, announcing thirteen days of pardon for all who might pray for the soul of John de Putney.

Mr. Mann described some remarkable Roman sculptures, consisting of architectural members, several very elaborately carved. These have recently been found at Bath.

Mr. J. T. Irvine reported the discovery of the foundations of the long-lost bell-tower of Lichfield Cathedral. The ancient records report that this stood in the close, and that it was burnt in 1315, since which time its site has been unknown. It has been found on the north side of the cathedral, near the chapter-house, in excavating for a new stable in the bishop's grounds. A mass of calcined flooring-tiles was first met with, covered with a coating of melted bell-metal, and afterwards the foundations of the massive walls.

Mr. Loftus Brock, F.S.A., exhibited a series of Italian salt-cellars of pottery of very diverse form, but identical with those noticed in English pictures of the fifteenth and sixteenth centuries, showing the generality of form in many articles of domestic use.

The Chairman then concluded his paper on the results of the recent Congress, and Mr. George Wright, F.S.A., called attention to the much-discussed question with respect to the birthplace of Anne Boleyn. He quoted from Spelman that she was born at Blickling Hall, and asserted that this might be taken as conclusive evidence, since he was so nearly a contemporary writer.

The proceedings were brought to a close by a paper on the Trethevy Stone, Cornwall, by Mr. C. W. Dymond, F.S.A. This is a cromlech standing on a low, well-defined mound, and having no appearance of having ever been covered over. All evidence is in favour of the belief that it was built as it now stands. A hole in the top stone may have been to receive the base of a cross in Mediæval times.

MEDALS AND PRIZES, ROYAL ACADEMY.

On Wednesday evening the medals and prizes awarded to the students of the Royal Academy were presented by the president, Sir Frederick Leighton, who, in the course of an eloquent address, after a critical inquiry into the question, "What is art in the world?" urged the students to have faith that the stirrings which they felt within them were not the last spent waves of a retreating tide, but the pulses of a living force, now, indeed, fuller, and now more feeble,—yet as old as our humanity, and of which the days were not numbered. He urged them not to vex themselves with the question whom they should follow, for if following meant imitation, they should follow none. Let them study with deep and reverent admiration,—and that admiration could not be too deep or too reverent,—the works of the great men who had gone before them. Let them brace and fortify themselves in the contemplation of their strength, catch what could be caught of the fire that was in them, but let them never forget that the common greatness of all those great men was their sincerity, and that it was only through sincerity that they could hope to emulate, even from afar, those masters of their art. Their work, in order to live, must be the direct and truthful reproduction of their own individual emotions, not the echo of the emotions of others. Without sincerity of emotion no gift, however facile and specious, would avail them to win the lasting sympathies of men, for as Goethe truly said,—

> "The chord that wakes in kindred hearts a tone,
> Must first be tuned and vibrate in your own."

The principal prizes and premiums were then awarded as follows:—

Historical painting, gold medal—H. H. Le Thangue. Landscape painting, gold medal (Turner)—Henry Gibbs: silver medal, extra—George Francis Miles. Painting of a figure from the life, silver medal—C. Knighton Warren. Painting of a head from the life, silver medal—William Hatherell; silver medal, extra—Henry D. Chadwick. Copy of an oil painting, silver medal—Sydney J. Hayes. Drawing of a figure from the life, silver medal, first—C. Knighton Warren; silver medal, second—Sydney J. Hayes. Drawing of a figure from the life, 10*l.* premium—William M. Griffenhagen. Drawing of a head from the life, silver medal—Edith Savill. Composition in sculpture, travelling studentship—Thomas Stirling Lee. Composition in sculpture, gold medal—Frederick Callcott. Model of a figure from the life, silver medal, first—Frederick Piercy; silver medal, second—Frederick Callcott. Model of a statue or group, silver medal, first—Not awarded; silver medal, second—David J. Wade. Drawing of a statue or group, silver medal, first—Jane Mary Dealy; silver medal, second—Not awarded. Drawing of a statue or group, 10*l.* premium—Jane Mary Dealy. Design in architecture, gold medal—Frank T. Baggallay; silver medal, extra—J. Howard Ince. Design in architecture, travelling studentship, Robert W. Gibson. Architectural drawing, silver medal, first—Frederick Miller; silver medal, second—Not awarded. Perspective Drawing and Sciography, silver medal—Not awarded. Design for a composition (Armitage prizes) first, 30*l.*—Marcus H. Smythson; second, 10*l.*—Thomas Hill.

PROPOSED HOSPITAL OF THE GUILD OF ART AND LETTERS, HAMPSTEAD.

The formation of a proposed new road through the beautiful park-like ground behind the Assembly Room in Well-walk, Hampstead, and lying between Well-walk and the Lower Heath, involving, as it will, the certain destruction of the magnificent forest trees,—oaks, elms, and chestnuts, — now forming most picturesque masses of foliage visible from many parts of Hampstead, a movement for the preservation of the trees has been inaugurated by Mr. J. H. Metcalfe, and is supported by a number of well-known persons. The land has been taken at a rent for a few months to give time to raise subscriptions. The scheme includes the foundation of a college, hospital, or retreat, for aged or infirm and poor artists and literary men, to be erected on the site of the present Assembly Room in Well-walk. Subscriptions, therefore, are now being sought among artists and literary men, and lovers of art generally, for the purchase of the site and erection of a retreat. This, and its proper endowment would require, of course, a very large sum, and whether or not that could be obtained is a question. The first thing to settle, however, is whether such a retreat would be acceptable or not, and this should be fully discussed.

OBITUARY.

Sir William Boxall died on the 6th inst., in his 80th year. He was eminent as a portrait-painter, and will be remembered as Director of the National Gallery, to which post he was appointed in 1865 as successor to the late Sir Charles Eastlake, P.R.A., resigning it 1874 in consequence of failing health. Like many other artists, Sir William Boxall was entirely a self-made man. It was at the Abingdon school that young Boxall got his first schooling. He exhibited a natural talent for drawing, and this led to his coming up to London, where he gained admission into the schools of the Royal Academy, where he was a fellow-student with Mr. Webster, R.A., who is now, as Sir William Boxall was, one of the retired Academicians. He went to Italy about the year 1827, and exhibited in 1829 his first important picture, "Milton's Reconciliation with his Wife," and a portrait of Thomas Stothard, R.A. In 1831 his picture of "Lear and Cordelia" attracted so much notice that it was afterwards engraved in Finden's Gallery. But it was to portraiture that he felt himself more attracted.

Mr. William H. Botterill.—On the 5th inst., Mr. William Henry Botterill, architect, died at his residence, West Parade, Anlaby-road, Hull, of typhoid fever. The deceased was 27 years of age, and was the only surviving son of Mr. William Botterill, and junior member of the firm of William Botterill & Son.

Books.

Mathematical Drawing Instruments, and how to use them. By Edward F. Hulme, F.L.S., F.S.A. London: Trübner & Co. 1879.

This is a handbook to the use of the simpler class of instruments such as are in daily use by the draughtsman; it is not a full descriptive treatise on instruments, such as that by Mr. Stanley which we noticed some time since; it is limited to a description of those most generally employed, and the best practical methods of using them. The author divides drawing-instruments into three kinds,—those used for producing straight lines, those for producing curves, and those for measuring lines and angles. The remarks on that most valuable servant, the ruling-pen, upon the goodness or badness of which depends so much of the comfort and expedition of the draughtsman's work, are very practical, and what we entirely concur in. A good many will remember their own youthful experiences in reading the remarks on the probable consequences of hurrying on to the inking of a drawing when the pencil definition had not been completely and clearly made out; and tyros of the present moment may take a hint from it, and save themselves from "scratchings out." We proceed from the pen to the T-square and set-square, and in connexion with these and some other of the instruments, diagrams are given showing the variety of figures and combinations of angles which can be produced by the ordinary employment of these instruments. We attach more importance to framed set-squares (for all but small sizes) than does Mr. Hulme; our experience is that solid set-squares, of anything more than 6 in. on the larger side, are seldom true for long. In the chapter on drawing-boards it would almost have been useful if the author had told his readers where to go for drawing-boards that will not warp or cast; comparatively simple a thing as a drawing-board seems, it is easier often to get the most delicate drawing instruments of a satisfactory nature than the board on which you wish to use them. But the various chapters in the book seem really to be very complete, and very practical and reliable, and easy to the comprehension of the younger worker. A slightly sarcastic tone tinges agreeably some of the advice given, and tends to fix it the more on the learner's memory. We can cordially recommend the book as a very sensible and useful one, containing many hints that may save time, trouble, and vexation to many an engineer's and architect's pupil, if duly read, marked, learned, and inwardly digested.

Which shall it be? New Lamps or Old? Sharpere or Shakespeare? Printed by Fleet & Bishop. Brighton: 1879.

As a pamphlet thus titled, Mr. J. O. Halliwell-Phillipps, F.R.S., is circulating a few pages extracted from a privately-printed volume now in the press, to induce further research to ascertain the general practice adopted in the *autographs* of surnames in the time of the great dramatist. Ben Jonson has shown how the name was pronounced by contemporary literary friends, by writing of,—

> "His well-turn'd and true-filed lines:
> In each of which he seems to *shake a lance*,
> As *brandish'd* at the eyes of ignorance."

And Mr. Halliwell-Phillipps claims that it should be now uniformly written "Shakespeare." That it should be so pronounced we fully agree; this pronunciation, indeed, is almost universal. But we see no reason for the first "e." "There are five, and only five, undisputed genuine signatures of the great dramatist known to exist, and in each instance" (says Mr. Phillipps) "he has written his surname without an *e* at the conclusion of the first syllable." Why add it, then? S-h-a-k-s-p-e-a-r-e is always pronounced Shakespeare. Why, therefore, add that for which the owner of the name has given no authority? We are very glad to see Mr. Halliwell-Phillipps again in the field; he has reposed too long under his laurels.

VARIORUM.

The first batch of Christmas and New Year cards received comes to us from Messrs. Eyre & Spottiswoode, the Queen's Printers, who seem to have made the production of such cards of compliments one of their specialities. Many of them are from designs by Mr. Albert H. Warren, and exhibit great variety. Mr. Warren is well

known as a designer, and the calendar received from him is a good evidence of his skill with flowers and birds. "The Game of Old England," also from Eyre & Spottiswoode, will teach while it amuses.——Messrs. C. T. Brock & Co. send us a little optical novelty called Magic Mediums. It is mildly entertaining.——Yes; we certainly move. In lieu of the ridiculous old Twelfth Night character cards which gladdened us in our childhood, Mr. Butler, of Great Portland-street, has issued two sets which have claims to be considered artistic, especially the Shakspeare series. They may even serve as Christmas cards. ——Artists may get a few hints from this quotation from the *Garden* on autumn tints in trees and shrubs:—"After an exceptionally wet year, and a summer almost sunless, it will perhaps be worth while to note the effect they have had on the different trees and shrubs that in ordinary seasons display gay-coloured foliage in autumn. I will confine my remarks from observations taken in Longleat Park and adjacent woods, having watched the changing hues daily. The Norway maple (*Acer platanoides*) was the first to colour, and quite outshone all its compeers this season with brilliant and gorgeous-tinted leaves; the colours varied from yellow to glowing fiery red. The contrast and effect, particularly in the noble and spacious avenue leading from the chief lodge to the mansion, which is planted in double rows alternately with lime, elm, and Norway maple, was a grand sight to behold; the latter at their best stage of colouring seemed to be so many shining lights amongst their more sober-coloured neighbours. The park was literally lighted up with them; each tree, so to speak, was like a tree on fire. Of other maples that coloured before the fall of the leaf, the most noteworthy were *Acer colchicum rubrum* and *Acer Schwedleeri*, both dying off pure yellow; the young leaves on the latter during summer are claret-coloured and highly ornamental. The tulip-tree has not appeared in its usual deep yellow-shining suit; a few trees are dying off pale yellow, but others are shedding their leaves a dull brown uninteresting colour. The Liquidambar, too, has failed to make its customary mark amongst rich autumnal-tinted trees, for it is usually beautifully coloured before dropping its leaves, often varying from purple to vermilion and other fiery colours. I am pleased to be able to note that the comparatively new purple birch may be classed amongst, and in the first rank of, gay autumn-coloured trees. A fine specimen growing here is just now clad in foliage varying from bright chestnut to vermilion."——The Christmas number of the *Illustrated Sporting and Dramatic News* is a very good one, both from a literary and artistic point of view. The coloured print, "Firm Friends," is fairly worth the price of the number. Look at the faces.——But what shall be said of the Christmas number of the *Illustrated London News*? Simply,—marvellous! ——All who are interested in the copyright question should read a paper on the subject by Mr. H. T. Wells, R.A. (which is endorsed by Sir Frederick Leighton, P.R.A.), in the current number of the *Nineteenth Century*. Mr. Wells makes a strong case against the proposed Bill on the subject.——The *City Press* says the Court of Assistants of the Cordwainers' Company, having regard to the importance of the City guilds employing part of their funds in the establishment of a central institution for the promotion of technical education, have (in addition to a grant of 250*l.* per annum already made), voted a donation of 500*l.* towards the building fund.

Miscellanea.

Sandringham.—A stable-yard has been covered with glass roofs constructed by Messrs. Barnard, Bishop, & Barnard, for H.R.H. the Prince of Wales, and glazed by Mr. Helliwell on his patented system. The architect, Mr. Smedley Beck, speaks very well of them. Four thousand feet of the same description of glazing have been put up at the Victoria Station of the London, Brighton, and South Coast Railway Company.

Westminster Abbey.—We are requested to state that owing to the bursting, through frost, of one of the hydrants which had been placed in the triforium for the protection of the Abbey in case of fire, the organ has been so far damaged as to prevent its use for some short time. The services will, however, be still choral. It is hoped that all may be set right by Christmas.

The Liverpool Safe Deposit Company.—The premises fitted up in the basement of the Imperial Chambers, 5, Dale-street, by the Liverpool Safe Deposit Company are now completed. The object at which the Company aims being indicated by its title, it may be mentioned that inside the vault, which is built as strongly as human ingenuity can devise, and which is fire-proof and heated by hot-water pipes, is a fire and thief proof iron and steel room, specially constructed by the Milner Safe Company (Limited), weighing 250 tons, and which is believed to be the largest and strongest safe in the world. This is divided into five compartments, one being for the reception of cash-boxes in daily use; two others for packages, plate-chests, and other valuables deposited with the company under seal; and the remaining two compartments are fitted up with 1,424 safes of various sizes. In one of them the renter can place his valuable property, locking it securely against every one but himself, as he has exclusive custody of the key, which will fit no other lock. The keyhole of the renter's safe is kept closed by the company's escutcheon, so that he may not obtain access to his safe unless in the presence of the officer of the company, so that mutual protection is secured. Means are taken for the identification of a renter, and as a further safeguard against imposition a pass-word is selected, and only by pronouncing that pass-word is the renter admitted into the vault and to his own private safe by the custodian, in whose presence he unlocks his own safe, and, taking out its contents, passes out of the vault to one of the retiring-rooms which are provided with desk accommodation, where, secluded and undisturbed, he can examine his property at leisure. Upon his return into the vault, accompanied by the custodian, he places his property in his safe, and locks it securely against any one but himself. A very interesting item in the arrangements is, that the compartments are provided with chronometer-time locks, which prevent the safe, after being closed at night, from being entered into at any other than the fixed hour for opening in the morning.—*Journal of Commerce.*

Leadenhall Market.—At a special meeting of the Court of Common Council, on the 1st inst., a report was brought up from the City Lands Committee, by Mr. George Shaw, on the subject of the Leadenhall Market Act, 1879, and for authority to carry into execution that portion of the Act which related to the formation of the proposed new streets. The report stated that they had had before them a copy of the Act, which provided for the abolition of the present Leadenhall Market, the improvement of the site and neighbourhood, the formation of certain new streets, and the construction of a new market. As regarded the approaches, they recommended a new street being made from Leadenhall-street into Fenchurch-street by Lime-street, and another from Gracechurch-street into Lime-street, by the widening of Half Moon and Beehive passages. The area of the new market would be 25,000 superficial feet. A report from the Markets Committee was brought up by Mr. H. A. Isaacs upon the same subject, submitting a block-plan for the new market, appropriating 25,000 square feet for market purposes, and admitting of future extension if found desirable. They recommended that the Act, so far as it related to the market proper, should be referred back to them for execution. The reports were, after considerable discussion, agreed to.

Institution of Surveyors.—At the meeting of this Institution on Monday evening last, Mr. E. Ryde, vice-president, in the chair, the discussion on Mr. Smalman Smith's paper (the substance of which appeared in the *Builder* a fortnight ago) was resumed, the speakers being Messrs. F. Vigers, Hugh Shield, H. Lofts, S. W. Casserley, Robert W. Mann, W. G. Harrison, Q.C., P. D. Tuckett, W. Eve, E. J. Smith, D. Watney, A. C. Meysey-Thompson, the author of the paper, and the Chairman. We have provided ourselves with a copious report of the discussion, but exigencies of space compel us to withhold it until next week.

City-road Chapel, the historic centre of Wesleyan Methodism, had a narrow escape from total destruction by fire early on Sunday morning last. The fire broke out in the morning chapel, which it completely gutted, and extended to the large chapel, which was much damaged. The disaster is ascribed to the overheating of the warming apparatus.

The Artisans' Dwellings Act.—At the meeting of the Metropolitan Board of Works on the 5th inst., it was resolved, on the recommendation of the Works and General Purposes Committee, that application be made to the Secretary of State for the Home Department for a general authority to the Board to remove any premises acquired for the purposes of schemes under the Artisans', &c., Dwellings Act, 1875, in which fever or other infectious diseases are prevalent or imminent.——At a special meeting of the Commissioners of Sewers of the City of London, on the 9th inst., a report was received from the Finance and Improvement Committee relative to their proceedings under the Artisans and Labourers' Dwellings Improvement Act, 1875, more particularly as to an application to the Secretary of State to modify the Commissioners' improvement scheme so far as to allow a site adjoining the Cattle Market at Islington to be substituted for those cleared in Golden-lane and Petticoat-square, under the powers given by the Artisans and Labourers' Dwellings Improvement Act, 1879, and for authority to undertake the building of artisans' dwellings on the said site. The report was almost unanimously agreed to.

Look to the Kitchen Boiler.—An accident which happened at Liverpool last week should induce caution in the treatment of kitchen boilers during the winter. A boiler explosion occurred about two o'clock in the afternoon on the 4th inst., in Hornby's public-house, Lime-street, but no person was injured, though much damage was caused. The boiler was what is known as the "L" boiler, and was behind the fire-grate. It had not been used for some time, and exploded with a terrific noise about two hours after the fire was lighted. The kitchen was rendered a complete wreck, and it is fortunate that no one was in it at the time.

Architectural Union Company, Limited.—The twenty-second ordinary general meeting of shareholders was held at No. 9, Conduit-street on the 3rd inst. The report of the directors, which recommended the payment of a dividend of 13*s.* per share, free of income-tax, was adopted.

TENDERS

For the completion of the extension of the West Kent main sewers. Sir Joseph Bazalgette, C.B., and Mr. Alfred Williams, engineers. Quantities supplied:—

Nowell & Robson	£40,811 0 0
Killingback	40,471 0 0
Mowlem & Co.	39,387 0 0
Webster	37,619 0 0
Dickinson	37,263 0 0
Neave & Son	35,854 0 0
Potter (accepted)	30,428 0 0
Woodham	29,760 0 0

For the erection of a mortuary, for the Vestry of St. Matthew, Bethnal-green. Mr. Gathercole, architect:—

Cook	£1,995 0 0
Lucas Bros.	1,600 0 0
Steel Bros.	1,595 0 0
Wood	1,587 0 0
Johnson	1,573 0 0
Thomason	1,550 0 0
Wire	1,500 0 0
Wilson	1,495 0 0
Beal	1,478 0 0
Mattocks Bros.	1,453 0 0
Ennor	1,390 0 0
Judd	1,375 0 0

For the erection of receiving-wards, and making alterations and additions to the Union Workhouse, Nantwich, Cheshire. Mr. J. A. Davenport, architect. Quantities supplied:—

T. & M. Meadows	£1,926 0 0
Brown	1,900 0 0
Lucas	1,870 9 2
Price	1,850 0 0
Nevitt Bros.	1,830 0 0
Ray	1,800 0 0
Brereton	1,737 8 5
Bromage	1,700 0 0
Wood & Petty	1,680 0 0
Harding	1,633 10 0
Matthews	1,616 0 0
Parker	1,605 0 0
Madeley (accepted)	1,450 0 0
Porter	1,236 0 0

For alterations at the Prince Albert public-house, Hollingsworth-street, Holloway, for Mr. Grist. Mr. H. J. Newton, architect:—

Shurmur	£333 6 0
Anley	300 0 0
Lamble	283 0 0
Godden	277 0 0

For villa residence at Burgess Hill, Sussex. Mr. Arthur Loader, architect:—

Mills	£2,812 0 0
Rampton	2,736 0 0
Lockyer (accepted)	2,728 0 0

For mission church and school, Fishersgate, Sussex. Mr. Arthur Loader, architect:—

Lockyer	£1,024 0 0
Longley	1,007 0 0
Reid	990 0 0
Bruton (accepted)	895 0 0

For additions to house, North-street, Chichester, Sussex. Mr. Arthur Loader, architect:—

Gambling & Sons (accepted)	£1,200 0 0

For erecting house, Walm-lane. Mr. Wm. Bradbear, architect:—

Shurmur	£1,494 0 0
Rowlandson	1,470 0 0
Steel	1,383 0 0
Sheffield & Prebble	1,157 0 0

For New Court, Serle-street, Lincoln's-inn. Mr. A. Waterhouse, architect. Quantities by Mr. T. M. Rickman:—

Stephens & Bastow (accepted)	£76,499 0 0

For providing and jointing about five miles of cast-iron pipe, for the Littlehampton Urban Sanitary Authority. Littlehampton Water Supply. Contract No. 4:—

Goodenough	£3,448 10 9
Shaddock	3,427 19 0
May	3,348 18 11
Marshall	3,259 11 0
Dixon	3,200 0 0
Easton & Anderson	3,057 1 5
Laidlaw & Sons	2,941 4 0
Walker	2,919 1 2½
Cowdery & Sons	2,893 0 0
Harrison	2,623 10 0
Hayter*	2,460 13 2

*Accepted. Sent in with right reserved to withdraw the same if not accepted at once, in consequence of the fluctuating state of the market.

For new stores and offices in the Farnham-road, Guildford, for Mr. George Trimmer. Deduction for old materials in buildings to be pulled down allowed in the amounts. Mr. Henry Peak, architect. Quantities supplied:—

Stradwick	£2,170 0 0
W. Swayne	2,027 0 0
Pearce & Clark	2,000 0 0
Garnett	1,997 10 0
T. Swayne	1,825 0 0
Martin, Wells, & Co.	1,799 0 0
Mitchell Bros.	1,717 1 4
Moon	1,708 16 0
Duke & Fowler	1,675 19 0
Smith & Sons (accepted)	1,649 15 0

For rebuilding premises, 27, Bow-lane, for Mr. William Cooke. Mr. Walter Graves, architect. Quantities by Mr. Walter Barnett and Mr. Power:—

Lister	£2,100 0 0
Hook & Oldrey	1,855 0 0
Greenwood	1,657 0 0
Hunt	1,629 0 0
Boyce	1,623 0 0
Anley	1,576 0 0
Toms (accepted)	1,529 0 0

For the erection of shops and offices, Corporation-street, Chesterfield, Derbyshire. Messrs. Rollinson & Son, architects:—

Tinkler	£1,254 0 0
Forrest	1,049 0 0
Cropper	1,002 0 0
Wright	992 19 9
Greenwood	990 0 0
Gough (accepted)	902 0 0
Brailsford & Brown	890 0 0

For the erection of a manager's house, Millwall, for Mr. J. T. Morton. Mr. William Eve, architect:—

Heiser	£1,316 0 0
Hunt	1,264 0 0
Crabb	1,230 0 0
Harris & Wardrop	1,099 0 0
Sheffield & Prebble	1,087 0 0
Salt (accepted)	945 0 0

For erecting dwelling-house, Caledonian-road. Mr. John Hamilton, architect:—

Boyce	£3,193 0 0
Little	3,129 0 0
Hayworth	3,098 0 0
Goodman	2,948 0 0
Shurmur	2,914 0 0
Harper	2,895 0 0
Crabb	2,850 0 0

For alterations to house, Goswell-road, for Mr. Shoobert. Mr. W. D. Church, architect:—

Steed	£310 0 0
Bullock	290 0 0
Downs	253 0 0
Shurmur	216 0 0
Steel	212 3 0

For police-station and two cottages, Woodboy-street, Leicester:—

Greenwood	£1,125 0 0
Plant	1,058 15 0
Smitten	1,030 0 0
Hallam	1,029 0 0
Rudkin Bros.	1,020 0 0
Duxbury & Son	1,010 0 0
Pailthorpe	1,005 0 0
W. & A. Rudkin	1,000 0 0
Major	997 13 0
Sharp & Son (accepted)	981 0 0

For the erection of dwelling-house, sale-rooms, &c., for Mr. G. Simmins, Crawley, Sussex. Mr. Peter Wood, architect:—

Woolger & Son	£789 0 0
Cook	629 17 3
Peters & Redford	625 0 0
Mitchell	586 0 0

Amended tenders, leaving out office-fittings, &c.:—

Mitchell	£560 0 0
Cook	535 15 9
Peters & Redford (accepted)	520 0 0

The tender of Messrs. John Mowlem & Co. for granite has been accepted by the Corporation of Kingston-upon-Thames.

TO CORRESPONDENTS.

W. F. (we decline recommending).—Junior (we really cannot attempt to price our correspondent's bill).—B. (received).—M. D.—J. B. & Son.—H. & O.—W. E.—A. E.—A. L.—C. J. P.—H. P.—S. & Co.—W. S.—Mr. W.—L. B.—T. B. H.—W. W.—V. B. K.—S. B. & Son.—E. C. P.—T. D.—G. S.—C. I.—W. L. G.—F. G. & Co.—H. W.—J. F.—W. & L.—H. H.—J. C. & Sons—H. de M.—F. M. A. (to be considered).—T. C. (next week).—X. Y. Z. (next week).

All statements of facts, lists of tenders, &c. must be accompanied by the name and address of the sender, not necessarily for publication.

We are compelled to decline pointing out books and giving addresses.

Notice.—The responsibility of signed articles and papers read at public meetings, rests, of course, with the authors.

SPECIAL NOTICE.

Christmas Week.—*The* Builder *for the week ending December 27th will be published on* **Wednesday, 24th** *inst., at the usual hour.*

Advertisements for insertion in that issue must therefore reach the Office before Three o'clock P.M. *on* **Tuesday, 23rd** *inst.*

CHARGES FOR ADVERTISEMENTS.

SITUATIONS VACANT, PARTNERSHIPS, APPRENTICESHIPS TRADE, AND GENERAL ADVERTISEMENTS.

Six lines (about fifty words) or under ..... 4s. 6d.
Each additional line (about ten words) ..... 0s. 6d.

Terms for series of Trade Advertisements, also for Special Advertisements on front page, Competitions, Contracts, Sales by Auction, &c. may be obtained on application to the Publisher.

SITUATIONS WANTED.

FOUR Lines (about THIRTY words) or under ..... 2s. 6d.
Each additional line (about ten words) ..... 0s. 6d.

REPLIES TO ADVERTISEMENTS,
Addressed Box ——, Office of "The Builder,"
Cannot be forwarded, but must in all cases be called for, and the Office Receipt produced.

THE CHARGE FOR A BOX IS AS UNDER:—
For "Situations Wanted" Advertisements ..... 3d. per Week.
For all other Advertisements ..... 6d. per Week.

PREPAYMENT IS ABSOLUTELY NECESSARY.

. Stamps *must not* be sent, but all small sums should be remitted by Cash in Registered Letter or by Money Order, payable at the Post-office, King-street, Covent-garden, W.C. to

DOUGLAS FOURDRINIER, Publisher,
Addressed to No. 46, Catherine-street, W.C.

Advertisements for the current week's issue must reach the office before THREE o'clock p.m. on THURSDAY.

The Publisher cannot be responsible for DRAWINGS, TESTIMONIALS, &c. sent at the Office in reply to Advertisements, and strongly recommends that of the latter COPIES ONLY should be sent.

TERMS OF SUBSCRIPTION.

"THE BUILDER" is supplied *direct* from the Office to residents in any part of the United Kingdom at the rate of 18s. per annum, prepaid. Remittances payable as above.

Bath Stone of Best Quality.
RANDELL, SAUNDERS, & CO. (Limited), Quarrymen and Stone Merchants.
List of Prices at the Quarries and Depôts; also cost of transit to any part of the Kingdom, on application to
Bath Stone Office, Corsham, Wilts. [Advt.]

Bath Freestone in Blocks of all sizes, warranted sound, and delivered at any Port or Railway Station.—YOCKNEY & COMPANY, Sole Owners of the CORSHAM DOWN QUARRY, Corsham, Wilts, to whom all letters should be addressed. [Advt.]

Doulting Freestone and Ham Hill Stone of best quality. Prices, delivered at any part of the United Kingdom, given on application to CHARLES TRASK, Norton-sub-Hamdon, Ilminster, Somerset. Agent: E. Crickmay, 4, Agar-street, London, W.C.—[Advt.]

Box Ground Stone,
For Winter Use, is the Best.
Being unaffected by frost, may safely be used fresh from the quarry.
PICTOR & SONS,
Box, Wilts. [Advt.]

Asphalte.
Seyssel, Patent Metallic Lava, and White Asphaltes.
M. STODART & CO.
Office:
No. 90, Cannon-street, E.C. [Advt.]

Asphalte.—The Seyssel and Metallic Lava Asphalte Company (Mr. H. Glenn), Office, 38, Poultry, E.C.—The best and cheapest materials for damp courses, railway arches, warehouse floors, flat roofs, stables, cow-sheds and milk-rooms, granaries, tun-rooms, and terraces. [Advt.]

Whitland Abbey Green Slates.—The peculiar green tint of these stout, durable Slates recommends them for Churches, Mansions, and Public Buildings. Present Orders booked at Reduced Prices.—Apply to Mr. J. MUSCOTT, Clynderwen, R.S.O., South Wales.—[Advt.]

J. Sessions & Sons, Docks, Gloucester, Manufacturers of ENAMELLED SLATE and MARBLE CHIMNEY-PIECES, URINALS, &c. WELSH ROOFING SLATES direct from Quarries to any Station in the Kingdom. Manufacturers of Joinery & Mouldings. [Advt.]

Damp Houses and Buildings, New and Old, DRIED, completely and permanently, in a few days, by LIGNY'S PATENT APPARATUS. By appointment to the French Government. Particulars of A. DREYFUS & CO. 39, Monkwell-st. E.C. Damp basements cured.—[Advt.]

J. L. BACON & CO.
MANUFACTURERS OF
IMPROVED HOT-WATER APPARATUS,
FOR WARMING AND VENTILATING
Private Houses, Churches, Schools, Hospitals, Manufactories, Greenhouses, &c.
OFFICES AND SHOW-ROOMS:—
No. 34, UPPER GLOUCESTER PLACE, DORSET SQUARE, LONDON, N.W.
Illustrated Pamphlet on "Heating" post free for Twelve Stamps.

CHAPPUIS' PATENTS

FOR

REFLECTING LIGHT.—DAYLIGHT REFLECTORS

OF EVERY DESCRIPTION, ALSO

ARTIFICIAL LIGHT REFLECTORS.

P. E. CHAPPUIS, Patentee. Factory, 69, Fleet-st. London, E.C.

N.B.—DIAGRAMS AND PROSPECTUSES ON APPLICATION.